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Original Contributions.

THE HISTORY OF MEDICINE.

BY EZRA H. B. STAFFORD, M.B.

Ad E. A. M. R., Salutem. The history of medicine has not as yet been written, though many writers of exemplary patience and unbounded leisure have dallied with the ample subject.

The fact, in all its seriousness, that such a history *might* be written, or ought to be written, seems first to have struck the German mind; and a large number of writers of this nationality have soberly addressed themselves to the congenial task. Probably a German scholar's ideal of earthly happiness is to be calmly engaged in writing a work, published by volumes from year to year, and of such a nature that the writer need have no apprehension of ever getting to the end. Casper Neumann's Chemistry may be taken as an example of this sort of work, which, carried on slowly, without unseemly haste, through the first half of the eighteenth century, covered eventually seven comfortable quarto volumes of about eight thousand pages, and came, only with the author's death, to a yawning termination, not unlike the mediæval notion of the edge of the earth.

And who shall have the audacity to say that Neumann's work is not eminently interesting? "Tin," he pauses to remark, "is called in the Syriac and Chaldaic languages 'Bragmanack,' that is, the kingdom of Jupiter; whence are deduced, 'Bratman,' 'Britman,' 'Britannia.'" From a reflection so flattering to the English, the deliberate author composedly passes on to a consideration of the

tin-pans of various countries, and, as a digression, devotes a few pages more to an almost enthusiastic description of the proper steps one should take to infuse a dish of tea in one of these same tin cans.

A *magnum opus* of this description has a great advantage over the Encyclopædia Britannica, in that it is all on one subject, while in the Encyclopædia the enchanted reader is constantly vexed by being wrenched here and there from one subject to another. The dream of Casper Neumann was to write on through eternity on the one subject, with the same circle of readers patiently following him *in sæcula sæculorum.*

To writers of this class the history of medicine offered a field of satisfactory vastness, and presently, through the sombre penumbra cast by the subject into the limitless spaces of oblivion, a gloomy constellation of German literary men began to heavily move in slow circles.

A little work on the history of medicine had, it is true, already been published in England by Dr. Freind, who, it will be remembered, was the same Freind who was imprisoned by Walpole for making some unseemly remarks in the House of Parliament about a bishop; and released at the instigation of the great Dr. Mead, to whom Martyn, the old professor of botany, dedicated his edition of Virgil's Georgics, a work replete with notes and marginaliæ, of which every other paragraph has some admiring reference to Dr. Mead's private library. Dr. Mead was not only a man of literary culture, however, but also a man of action; and though Freind was a foe in the lists of science, he was after all a physician, and as the professional blood was then, as now, thicker than water, Mead fervently desired to see Freind out of the Tower, after which, in all probability, he would settle scientific differences, but not till then. So he waited until Sir Robert had another attack, most likely of gout, and had called him in, whereupon, plucking up a brave spirit, more especially as the Prime Minister's was at that time probably very weak, he told Sir Robert flatly that not a pill nor a plaister should he get from him until he had let Freind go free. Even so they importuned Pharaoh, and, like Pharaoh, Sir Robert let go the peccant Freind; and, we hope, was amply benefited by the treatment which, after such an act of atonement, was no doubt at once forthcoming from the propitiated and magnific Mead.

But Freind's "History of Medicine" was only a little trifle in a couple of large, fat, leather-bound volumes, and the German authors saw that the subject had not been properly handled and was capable of more voluminous and comprehensive treatment. I fancy they must have been disgusted with Freind.

However, after a couple of tentative attempts by Heinrich Schultze and Ernst Hebenstreit, Gabriel Hensler formally opened the new field of activity with an unpretentious bagatelle of ten or a dozen volumes, just to show what the capabilities of the new subject were. And he showed it to be, without a doubt—to use the

words of Charles Stuart Calverley, in his poem on the "Cock and the Bull":

> "A thing Imagination boggles at,
> And might, odds-bobbs sir, in judicious hands
> Extend from here to Mesopotamy."

At this stage Kurt Polycarp Joachim Sprengel suddenly began to show painful exacerbations of uneasiness. It did not exactly strike him that Hensler had done his best; or, at all events, Hensler's best was not what Sprengel's soon should be. At this juncture "Sprengel developed a perfectly marvellous activity," remarks his admirer, Hermann Baas; and the remainder of Sprengel's life was devoted to deliberately amassing the most bulky history of medicine that had ever been written. *Facile princeps* from the standpoint of *area*, it looms forever like an enormous pyramid in the silence of the Egyptian darkness.

Worshipping from afar, it struck Baas that a minute vest-pocket compendium of the subject might prove of utility to those who prefer to read while they run. In humble guise, therefore, and not as an original genius, so much as a fervent admirer of the vast accomplishments of his predecessors, Baas put forth, in due time, his trifling synopsis or epitome of the subject, which, in the abridged translation, has been so compressed as to only fill twelve hundred pages of close diamond type in a little imperial octave volume. This chaotic work, though in no sense of the word a history, is crammed with the material out of which histories are made, and is admittedly the most satisfactory literary effort of the sort at present available; and like all labors of love should, perhaps, pass unscathed by criticism.

Analogies are often helpful to a bewildered person, and I accordingly consulted with my respected Semitic friend, Mr. Isaac B——, who follows the rag and bone business, for an apt analogy. Isaac very courteously enlightened me upon many points which bear upon the scope and methods of the rag and bone business.

It would seem in the first place, from what Isaac says, that everything that is palpable to the senses has some value, sometimes not very much value, but always, if properly exploited, capable of definite profit. A broken teacup, a dead alligator or a pile of ashes—all are sacred. But Isaac has the Midas touch by which he transmutes all things whatsoever into—much-soiled bank notes. All cannot do this. I cannot do it. The reader cannot do it. But Isaac and Sprengel held the mystic secret.

That the pen is mightier than the sword is an assertion frequently made by those who have shown moderate facility in the use of the former. But Sprengel's armamentarium was a shovel. He worked, as has been shown, with a will. And into this history of his, the honest, vigorous fellow conscientiously shovelled every possible object from the lanes and alleys of literature that had, to his somewhat perverted olfactory sense, the remotest smell of

medicine. Biographical old clothes, the dried offal of obsolete disputes, the ghosts of ten thousand fools, the mildew of occult superstitions, the cadaver of forgotten greatness, the broken umbrella that once shaded the head of pomposity, the pots and pans of academic pretentiousness, the rags and tatters of all time. In the dismantled mausoleum of Herodotus a stolid scavenger with his donkey cart has stored the arkana miscellanea of his devious pilgrimages.

And to repeat the words of Isaac, whom I admire, "The rag and bone business is the independentest and also the happiest occupation which one can follow among men." No ideals are necessary—it is simply a question of keeping occupied all the time. "Sprengel *developed* a perfectly marvellous activity."

Thomas A. Wise was another true believer. Dr. Wise believed in the ancientness and the authenticity of the medical writings of the Ayur-Veda as preserved in fragments scattered through the writings of Charaka and Susruta. I sincerely trust that he did not live to hear Max Müller's ruthless "aside" in regard to these Sanscrit writings. It really would have hurt him so very much. Since then, I know, various historians of medicine have contended upon the opposite sides with varying applause—some that Charaka and Susruta (Oh, bitter spite!) had in reality obtained their medical knowledge from MSS. or pupils of Hippocrates imported into Hindostan; and others, like Wise, that Hippocrates had, as a matter of fact, travelled far more extensively than was generally supposed, and under the sun of India had at last paused in awestruck admiration at the golden truths with which he became for the first time familiar in the writings of Charaka and Susruta. As it may. In his history of Oriental medicine Dr. Wise has bequeathed to posterity, if not a work of transcendent historical value, at least a record with all the charm and busy quaintness, and the same partiality for a tesselation of names which still endears the Anatomy of Melancholy to readers of otherwise the most antagonistic tastes.

To this partial enumeration might also be added Bettany's Sketches of Eminent English Physicians—idle, personal gossip, it is true, yet charming to readers, professional and lay, for the same reason that the series of little books entitled "Masters of Medicine" is charming—because, without going to the centre, all alike play in an easy superficial manner upon the trivial little matters that in the field of biography always seem to possess the greatest interest. Berdoe's popular volume may also be mentioned here; not so much because he has succeeded in writing anything that approaches to a history of medicine, as because his intentions were certainly good even though his execution was deficient.

Park's Epitome is not a volume of original research at all, but a compressed outline of the particular field of medicine already covered by Hermann Baas. As a series of biographical memoranda, and a repository of dates and names it will be found exceedingly useful for reference, and, as perhaps the most convenient handbook

on the subject, may be consulted with advantage when one is in search of some point.

Baas wrote in a party spirit. Like so many of that untutored race, he confused the violence of his prejudices with soundness of thought. Of a few of his own compatriots he speaks benignantly, but of most aliens, sourly, contemptuously often, and seldom with any sympathy whatever. To this grave infirmity add the fact that the Muse of History abode not with him, and one sees a reason why his book is not a living whole, entire, self-contained, perfect, but a scrappy miscellany of stale odds and ends, lacking outline, light, cohesion or color.

Roswell Park, on the other hand, is a successful surgeon, but not having sufficiently familiarized himself with the *dramatis personæ* of the healing art, an end which could only be accomplished by long intimacy with that goodly company, they are, many of them, but names to him still, I fancy, like so many visiting cards, and Park displays therefor no sympathies and no hatreds, for he does not know enough of the inner life of the people of whom he speaks to feel either. In the construction of his book, therefore, he has shown the surgeon's skill rather than the historian's intuition, and has cut and clipped out, and sewn and sutured together the dry facts of the past as gathered from the "most authentic sources." The result is before us. These facts, as I have already admitted, are useful. The exploit, as a literary operation, is a neat one. But it is not literature, it is not history.

Many local histories of medicine also abound on both sides of the Atlantic, which need not be particularly mentioned here; consisting, as they do, merely of long chains of personal memoranda, and written chiefly for the felicitation of the individuals celebrated, or their families, who are usually the only willing purchasers and the sole readers. Indeed, it is worthy of note that unskilled writers, when girding themselves for a so-called historical work, invariably fall into petty biography, and lose themselves and the yawning reader in vapid maunderings concerning the personal characteristics of an obscure throng of mediocre and commonplace nobodies whose chief claim to immortality lies in their passive respectability and the willingness of their posterity to subscribe for five copies of the book.

To this class may be added, furthermore, those numerous works which treat of the history of one special branch of the healing art, or of the progress made by medicine during a given time; as, for example, "South's Craft of Surgery in England," or the writer's modest volume on Medicine in the Nineteenth Century Series. Such works cannot be regarded in the serious light of history any more than the German haystack school of literature already referred to; but all go together, let us hope, to form a vasty bulk which patiently awaits the Röntgen rays of the historian that is yet to arrive among us.

"I do not see why one should speak disparagingly of a history

of medicine," Dr. Lewellys Barker remarks in a letter; "it seems to me that the historical side, more than any other, is what is neglected." It is of the histories, and not of the history, that I have been speaking in the foregoing; but to turn now to the latter, it certainly is neglected in more ways than one.

The whole fabric of law is built up of historical precedents. It has no past, for the past of law, strictly speaking, is a vital part of its present. In theology the same fact holds good to a similar, or even a greater degree. The *beaux arts* in like manner carry their history with them through all their revolutions and into every new field of fancy, living over and over the doctrines of the past, and repeating periodically both their blunders and their triumphs, as Mr. Tress, of London, repeats every decade or so the contour of discarded silk hats. Poets and hatters, lawyers and painters, ecclesiastics and musicians alike batten perpetually upon the glory and stupidity of their past histories; and while this may be, and I think is, an indication of their limitations, the benefit is still very great in the case of all, especially the hatter, keeping warm the enthusiasm in the subject, spurring on the ambitious to new feats of strength or audacity, and lending a pride and an *ésprit de corps* to all the members of each separate guild.

But in medicine, behold the dispiriting contrast! The day of the boldest or of the profoundest medical thinker can only be ephemeral. As a horse is damned by its teeth, so the great and brilliant medical work, that basked for a brief space in the noisy applause of the profession, presently succeeds in eliciting only a reluctant respect, rapidly sinking into a position of tacit, and then of outspoken contempt, and too soon into utter oblivion. Then, indeed, it goes down unnoticed into the Hades of the second-hand bookseller's cellar, into which shadowy realm of spectral sadness the present writer, like Dante at the heels of Virgilius Maro, has often descended behind Mr. Albert Britnell, bearing a flickering lanthorn into that zone of shadow.

Eheu! fugaces. O Reynolds, Holmes, and all thy silent train! Heberden there I saw; the august Boerhaave, oh, heavy change; Cullen, with his masterly description of the best method of practising variolous inoculation; Rokitansky, fallen on evil days; Schwann, the apostle of cells who had been thrust down by Jove into a cellar; Sydenham, Brodie, Andral and Bichat were there, and also Marshall Hall, too disgusted to even pick a quarrel; Galen and Hippocrates with their pig-skin bindings gone beyond repair; Francis de le Boë—but

> Multis ille bonis flebilis occidit,
> Nulli flebilior quam mihi.

And is this well? Would not even the student at his clinic take a more enlightened interest in the case of pneumonia if he knew the story of Count Leopold Auenbrugger, the old Viennese physician, or called to mind as he adjusted his stethescope the weird

boyhood of Hyacinthe Laënnec, walking while a tender lad amid the camps and the hospitals of the French Reign of Terror, and forming there the foundations of his character?

In the pages of a few of the medical writers of the present day kindly homage is rendered to the names of those who have adorned the history of medicine. In Erichsen's noble work on Surgery there are very numerous references to the surgeons of past time. Hilton Fagge, also, in his Practice of Medicine, was not forgetful of those who had added lustre to the science, while in America, Osler, though restricted in space to a single volume, still finds it possible to acknowledge the labors of earlier investigators.

In the majority of the smaller text-books, however, the writers' facts must commend themselves to a favorable reception for the same reason as do the eggs of the huckster. Freshness is all in all, and then, brevity. Possibly this may be due to a certain extent to the medical book market (an implication that the author writes for the publisher and not that the publisher publishes for the author), for this book market consists largely of very practical practitioners, and haunted medical students, the latter frantically hurling themselves from examination to examination; and, if they fall, falling heroically with a cram compend in each hand. The practitioner in his haste and the student goaded by terror are not in a mood for leisurely retrospect or placid reflection, and to them the history of medicine will never probably appeal, under any circumstances. On the other hand, as has been shown, even those most interested in the subject have much reasonable fault to find with the solemn dulness of the performances already put forward; for the style is rambling, and the matter, though sufficiently ancient, yet insufficiently illuminated as ancient things ought to be. "It is," in fact, to apply the words of Touchstone, "the right butter-woman's rate to market. For a taste:"

From the most remote times (with Touchstone's grimace) the healing art was practised by priests and kings, and among the Chosen People a considerable degree of medical knowledge was early displayed. Indeed, no race of antiquity evinced so prudent a regard for the laws of sanitary science; and though the Egyptians, as Baron Larrey and the Parisians do vainly boast, engaged very extensively in the practice of *post-mortems*, contrast with such a vaunt the knowledge of *Comparative Anatomy* which the Levitical priesthood would gradually acquire through the practice of making burnt offerings of the cattle of the laity; on which occasions the abdominal viscera alone were burnt, and the remainder, with the exception of the hoofs and the horns, solemnly devoured by the sacred brethren, a custom in gastronomy, as far as rejecting the hoofs and horns and intestines goes, which succeeding ages have sedulously copied from that sacred origin. Nor are other instances wanting to clearly indicate a sagacity in the rules of hygiene which more than anticipates the discoveries of modern times. Take, by way of example, that noble utterance in Sacred Writ (Deut. xiv. 21) where the inspired writer admonishes the Holy People as follows:

"Ye shall not eat of anything that dieth of itself; thou shalt give it unto the stranger that is in thy gates that he may eat it; or thou mayest sell it unto an alien, for thou art an holy people."

Here we see beautifully exemplified—*Pace*, Wilford Herriman—a candid dislike to the use of animals as food which have fallen dead of disease.

The historian having been supposed, in this strain, to have also said all that is to be said regarding medicine in Egypt and in Babylon, the beaten track of medical history leads straight to Hindostan, where the Shastras of the Sanscrit medical writers should be assailed in either the Wise or the Müller spirit; then back to Hellas, on to Rome, through the Arabian interregnum of Avicenna, Rhazes and Avenzoar, across the Middle Ages by way of Salerno and the Universities to the Iatro-Physical and the Iatro-Chemical schools, and behold—Rosicrucianism lies moribund! Expiring Vitalists fade away into shadows! Phlogiston has become a thing of the past! Leeuwenhoek turns in his grave for Amici has got his lenses to working at last and we are face to face with modern medicine! Into this splendid realm may we on the present occasion, like Moses, discreetly die rather than enter.

"Let us hear the conclusion of the whole matter." Here we have an art which is older than all others. The graduate of the vernal equinox now approaching will be able to look back through forty centuries, and find before him the same difficult duties that perplexed the followers of the Memphian Imhotep, the identical problems that drew the lines of care on the brow of Hippocrates. Surely with the more pride he will claim membership in a profession less open to the charge of mercenary cunning or petty selfishness or vulgar hypocrisy than any other; a profession which with venerable dignity towers far above the extraneous farcical elements with which all professions are inevitably surrounded; a profession which, as it is assailed now on all sides by discordant cries and ludicrous pretentions and pseudo-sciences and multiform impostures, has ever been so surrounded by a similar Circean rabble from century to century, and has outlived the menaces of them all, for these are but the ephemeral gnats that hover about a statue of stone.

And this the history of medicine teaches: the unity of aim, the singleness of purpose, the undeviating allegiance to an unchanging ideal through long ages, that can be claimed by no other art, no other fraternity. The spirit is always the same—a note not without a quaint yet despairing touch of humor.

"Medicine is of all the arts," the Coan practitioner observes in his Law, or gnomon, by which true physicians are to be distinguished from the false, "of all arts the most noble: but, owing to the ignorance of those who practise it, and of those who inconsiderately form a judgment of them, it is at present far behind all the other arts. Their mistake appears to me to arise principally from this: that in the cities there is no punishment connected with the practice of medicine except disgrace, *and that does not hurt those*

who are used to it. Such persons are like the figures which are introduced in tragedies, for as they have the shape and dress and personal appearance of an actor, but are not actors, so also physicians are many in title, but very few in reality."

In the Oath also, for Francis Adams' translation of which, in a richly embellished, and, in spite of one or two anachronisms, most artistic illumination, we are indebted to the kindness of Mr. R. L. Gibson of this city, the same dignified spirit is manifested.

Nor in their ethics alone, but in the actual practice of their art also, the early physicians display the same qualities of mind with which one associates the best physicians of the present day. In this manner, for example, Aretæus, the Cappadocian, sets down (in his work on Therapeutics) various prescriptions by which the comfort of patients afflicted with cardiac disease may be ensured, letting slip, in his earnest admonishments, a quotation from the national epic: "Mix together some of the hair of wormwood, and of myrtle, and of acacia, and of the manna of frankincense, all sifted; which, being all rubbed up together, are to be added to the cerate of wild vine. But if the sweat be not thereby restrained, the juice of wild grape is to be added to the mixture, and acacia, and gum, and the edible part of sumach, and alum, and dates, and the scented juice of roses. All these things, along with nard, and oil of wild vine are to be applied to the chest; for this, at the same time, cools, and is astrigent. Let him lie in cool air, and in a house having a northern exposure; and if the cool breeze of Boreas breathe upon him, '*it will refresh his soul sadly gasping for breath.*' The prospect should be towards meadows, fountains and babbling streams, for the sweet exhalations from them, and the delightful view, warm the soul and refresh nature. But if from want one is not fortunate enough to possess these things, we must make an imitation of the cool breeze, by fanning with the branches of fragrant boughs, and, if the season of spring, by strewing the ground with such leaves and flowers as are at hand."

"The Physician," quoth dear, pious John Allen, many centuries later, in his *Synopsis Medicinæ*, "The Physician Administers, Nature Heals, and may God, in the meanwhile, mercifully grant his Blessing."

One might continue indefinitely from age to age, and from school to school, turning the pages of the writers on medical doctrine, and ever finding the same purpose, the same altruistic ideal; never, it is true, ostentatiously published and set down, but rather, as in the foregoing, unconsciously admitted, and more to be inferred than definitely apprehended.

And though by considerations of this kind the futile attempt is not made to mantle the fact that, as at the Shearers' Feast, so here, many despicable and base persons, unscrupulous, and urged by the most vulgar motives of gain, have contrived, through all time, to thrust themselves into this serious company of worthy men; the truth still remains that the medical profession has exerted an

influence during the past century more beneficent to the human race than any other. Setting its signet upon health and morals, in the scientific sense, it has laid a restraining hand upon the very Fasces of Justice, and by its disinterestedness and its sincerity has appealed to the purest and most exalted feelings of the race.

In every Scene, from Act to Act, and until the dark curtain slowly falls upon the Drama of life, the physician is present and plays a leading part, as well in the most solemn as in the gayest situations. Once, as the cannon slowly cooled all night long, his work was upon moonlit battle-fields, operating in the ominous silence by the flickering light of a lantern. In the purer and more serene civilization which is dawning, and in the last bitter conflict between the grotesque monstrosities of Superstition with which Truth unarmed is still confronted, his place will be in the action itself. Nor upon Marathon nor upon Waterloo hung more palpably the authentic destiny of man.

THE TREATMENT OF THE ACUTE DIGESTIVE DISORDERS OF INFANCY.*

BY ANDREW R. GORDON, M.B.(TOR.).

In choosing this subject, "The Treatment of the Acute Digestive Disorders of Infancy," I am not unaware of its comprehensiveness nor of its importance. You will allow me, however, to limit myself to the discussion of features common to the many forms of the acute digestive disorders of infancy, and to emphasize certain principles pertaining to the treatment of them, and so pardon my temerity in attacking such a subject in so short a paper.

My purpose is to discuss the treatment of those acute attacks of digestive disturbances occurring in previously healthy infants, and the often alarming attacks occurring from time to time in cases of those whose proneness to them, make them a constant care to the mother and so often an anxiety and perplexity to the physician.

Such attacks are the result of the disturbance of the equilibrium between the digestive forces and the materials which they are supposed to digest. Whether we subtract from the one arm of the balance or add to the other, the result is the same.

When we speak of the digestive functions we must not think of the salivary, gastric and pancreatic secretions alone, and the chemical activities of their specific elements upon the ingesta, but also of the subtle influence of the succus entericus, about which so little is known; the mysterious internal secretion of liver, pancreas and other glandular structures directly connected with the tract, as well as of their more evident functions; the peristalsis of

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stomach and bowels and the various ducts emptying into the canal; the absorption of products from its contents, wherein is manifested the wonderful selective power of the epithelium to accept or reject products offered; the excretion of waste products from the economy, and the "wheels within wheels" of the complicated mechanism which we try to understand. These can be fairly well summarized in the terms secretion, absorption, peristalsis and excretion, interference with any one of which leads to disorder of the whole.

These various disorders, from the vomiting of the excess of wholesome milk taken by a healthy and vigorous babe, to the grave conditions of chronic gastritis and chronic ileo-colitis, are different only in degree. If the excess of wholesome milk taken by the healthy babe be not vomited, the balance is disturbed, and, possibly, we may see the primary gastric irritation from the non-digested food, become an acute gastritis, an intestinal irritation, an enteritis, an ileo-colitis—acute or chronic—upon which, at any stage of the course, may be heaped an acute milk infection, an acute gastro-enteric infection, a cholera infantum, or that serious condition by whatever name it may be known.

While Emmett Holt recognizes an "acute gastric" and an "acute intestinal irritation," without showing any pathological changes, Ewald recognizes in them all the one process, a gastric, enteric, or gastro-enteric inflammation, and the condition ascribed by Holt as a gastric irritation he accepts as the primary congestive stage of a gastric inflammation or gastritis. The term "catarrh" he condemns as conveying an altogether false idea. The gastric mucosa is not simply a mucous membrane as the pharyngeal membrane is, but owing to the abundant glandular arrangements, considers it as the "glandular layer" of the stomach, and its inflammation as an "adenitis," having nothing in common with a "catarrh," *e.g.*, pharyngeal or nasal, except the "flow" from the mucous glands, which are altogether insignificant when compared with the other glandular structures composing the most of its substance.

Ewald points out (1) that whenever we have an irritant present in the stomach, *e.g.*, undigested, fermenting or decomposing food, we have a congested or an inflamed membrane, whatever may be its degree; and (2) while in the earliest stages of an inflammation of the mucosa, there may be an increased cellular activity, the *quality* of such secretion is defective although its *quantity* may be increased; and (3) as a matter of fact, in all gastric inflammations, the secretion of the HCl is in abeyance, while the pepsin may be present and the "rennet-zymogen" unaffected, which latter, in the absence of free HCl, does not become converted into the "rennet-ferment"; and (4) in the absence of free HCl, the natural stimulant of the muscularis, the peristalsis of the stomach is impaired or ceases altogether. Thus we have the most favorable combination of circumstances for the development of bacteria: the presence of organic matter at a favorable temperature, the absence of the digestive ferment and bactericide—the HCl, and impaired or no peristalsis.

The passage of the vicious products there produced into the intestine excites a similar condition there—an intestinal irritation, an enteritis, an ileo-colitis, according to the viciousness of the irritant and the forces present to combat it. The intestinal epithelium impaired and unable to exercise its selective property of absorption, the portal tributaries become surcharged with poisonous products whether peptone, propeptone, or products of decomposition; the circulation in the liver becomes sluggish, its secretion defective, its interception and retention of, and specific action upon, peptone and other products imperfect, and we have all the symptoms from malaise and headache to those of alarming toxemia. The natural purgative, nature's intestinal antiseptic, the important digestive factor of fats, is defective, and the primary disorder still further intensified. Upon this depends the treatment. We must cut off the supply of the offending material and get rid of what is already there, and strive to allay the irritation produced by it. This is secured by starvation, purgation, flushing, and the use of sedatives.

Starvation—It must be decided. If the attack is stomachic the reason is the more evident. If primarily intestinal, the gastric functions are invariably defective as a consequence, and the exhibition of food will add to our difficulties by exciting a gastric derangement and aggravating the intestinal. It is true, however, that the gastric functions, in the great majority of cases, are primarily at fault.

The withholding of food must be absolute. In the milder cases eight, ten, twelve or twenty-four hours' starvation may be necessary—everything withheld except water, or water with a trace of common salt added, until vomiting ceases, if it be present; until the discharges from the bowel change decidedly for the better as to frequency, appearance, and odor; until the temperature falls to normal, or nearly so, if fever be a feature of the disease; until the pulse approaches the normal in rate and character; until pain and distress, excitement, stupor, or other nervous symptoms disappear.

In the simpler forms we often do not find much disturbance of pulse or temperature, when a few hours' starvation and the administration of a purge will be all that is necessary. We do not get elevation of temperature and rapid pulse until fermentation and decomposition of contents have become established; but very often, especially where there is a chronic digestive weakness, these very symptoms are present for some hours before the severity of the attack manifests itself, and fortunate it is if they be recognized.

In the more protracted cases, where we have a definite gastritis or an ileo-colitis, we have to still further persist in the "starvation diet" falsely so called, for we must remember that it is not the food that a child takes into its stomach that determines its nutrition, but what its digests and absorbs, and the injudicious administration of food may mean further loss of nutrition rather than its supply.

After the first period of starvation for twenty-four hours or so,

rice, barley, arrowroot, toast, or albumen-water should be used in small quantities, but frequently administered. Small quantities of beef juice, liquid peptonoids, or beef extract should be added. Liquid peptonoids, with some of the above waters, I have found most satisfactory. It is stimulating and nourishing, and appears to be most acceptable to the most irritable stomach.

In these more serious cases, the non-digestion and decomposition of the albumens is the chief source of the trouble, accountable, at any rate, for the production of the more toxic products; hence the advisability of using the starch waters. The fermentation of the starchy foods and fats produces more pain and distress, but not the toxemia of the former, and so, when we find the stomach or intestinal contents acid from the presence of the vegetable or fatty acids, or their salts, we have recourse to the albumen-water and beef juice, or other albuminous food.

It may be necessary to persist in the use of the diet for days, until, as I said before, the symptoms disappear, and the child is practically convalescing. During this period stimulants are always necessary, and should be used freely, but well diluted.

The return to the accustomed diet must be made with extreme caution. In the case of bottle-fed infants, or of those who are weaned, cow's milk should be the very last of the liquid foods to be allowed. We should use one class of foods exclusively at a time—either the starches, some of the malted foods or the albumens, but never together. Otherwise, if there is any disturbance, we are at a loss to know which is at fault.

When milk is to be allowed, it is safe to peptonize it more or less completely, although I have seen plain sterilized milk with lime water, and well diluted with plain sterilized water, starch water, or some of the water-foods, more readily taken than peptonized milk.

Purgation.—Purgation, and purgation repeated again and again, is of essential importance. When we want a sweeping purge, calomel is the best—a single large dose, gr. i. to grs. iii., combined with soda bicarbonate. The soda prevents griping, possibly by preventing its conversion into bichloride, although some therapeutists believe that such conversion always takes place. When we remember that in all gastric inflammations, free HCl is absent or deficient, the certainty of it is not so evident. It should be given when the stomach is empty, as long after food as possible, or immediately after vomiting.

Divided doses can be used to better advantage when we have the case well in hand, or when vomiting is troublesome; when we might be uncertain how much of the large single dose had been retained, and as to the advisability of repeating it.

For the gastric varieties, or when we wish the slower but longer-continued action of the drug, *i.e.*, after we have secured a free evacuation of the bowel by our initial dose of calomel, grey powder I believe to be the most satisfactory.

The great advantage of mercury is owing to its cholagogue action, direct and indirect, its antiseptic property, and to the fortunate fact that it is extremely well borne by children.

The "vicious circle" is thus broken at its central link. The liver is restored more or less completely to its normal activity, the portal circulation is relieved, the bile flows more freely, and we get not only an emptying of the canal, but an abundant flow of nature's own antiseptic. Its use should always be followed by some other laxative—castor oil or rhubarb. There appears to be nothing quite equal to castor oil. It is safe and effectual, and essentially is it soothing to an inflamed membrane. If vomited it should be repeated immediately. It is its nauseating taste that induces the vomiting, and the child, having become accustomed to the taste of it, rarely vomits the second dose.

Occasionally, where the digestion of fat has been at fault, and irritating fatty acids are present, it appears to aggravate the trouble, and cause considerable griping.

For the more continued use, and during convalescence, the aromatic syrup of rhubarb or the phosphate of soda are very satisfactory. They are both hepatic stimulants, and the latter has the advantage that it can be added to the food without in any way divulging its presence.

Daily purging should be continued with these remedies until the temperature falls to normal, or nearly so, until the pulse improves, until the nervous disturbances disappear, until all offensiveness of the discharges ceases.

We cannot conclude that because the child has had one, two or three doses or courses of calomel and oil, that the intestinal canal is clean, although these are the best agents wherewith to cleanse it. How often do we see that after such a course, the discharges changed in character, free from odor, etc., and yet the temperature remaining high, and other symptoms possibly only modified, a final full dose of calomel and oil has the effect of bringing away, perhaps, a small quantity of fecal matter, exceedingly offensive, and resembling in character that seen in the early stage of the disease, but which has been lodged in some crypt or recess in the bowel, and with its removal the patient appears like a different child, and practically convalescence is thoroughly established. And how often we feel quite safe when we see the characteristic calomel stool.

Flushing.—This has the same object in view as purgation. Water should be used *ad libitum.*

When the stomach is foul, copious draughts of water, with enough salt added that its taste may be distinctly detected, should be given. If vomiting be present it is no contra-indication; if it be not a feature of the disease, it will often induce a very desirable emptying of the stomach. Until we feel sure that the stomach is clean we should give it again and again. It serves every purpose of "lavage"—except in urgent cases where time is a factor and in

cases of chronic gastritis—and may be used except in the continued vomiting of acute gastritis or the persistent vomiting, of central origin, after the stomach has been cleaned. But even here we often find it a more excellent sedative (when taken hot and in small quantities) than ice.

Water (normal saline solution or preferably a solution a little less than normal) per rectum is even more important. In all cases it should be used to remove offending matters from the bowel, to dilute poisons, to flush the system, to stimulate the portal circulation. The quantity should be large, and in severe cases should be used three or four times daily. The temperature is determined by the condition of the patient. Cold rectal flushings in high fever is one of the safest and best antipyretics. When there is moderate rise of temperature, when the temperature becomes normal, and in continued cases the temperature of the water should be about 98° F. When there is severe diarrhea, the temperature subnormal or symptoms of collapse, it should be hot, even 110° F., but used in smaller quantities.

The long rectal tube, a catheter of heavy rubber No. 18 or 20, should always be used, and with not more than one and one-half or two feet head. The patient should be placed in the lithotomy position, turned slightly to the left, and made to lie comfortably. We often thus find a crying distressed babe soon become quiet and comfortable, as soon indeed as the first expulsive effort has passed.

The water should always precede the end of the tube that the semilunar folds of rectal membrane be safely passed. That offering the most difficulty is the one placed on the right side near the upper end of the second portion of the rectum. By using gentle pressure and rotating the tube on its axis this difficulty is overcome. We thus assist in removing one of our greatest difficulties, the engorgement at the portal tributaries, and contribute to the restoration of the hepatic function and all that that means.

Sedatives.—The sedatives to be used are the local and general, and we have nothing better than bismuth and opium. The former should always be used in large doses, as much as ℥ii. in 24 hours when there is an ileo-colitis or a gastritis.

After the colon is cleansed by flushing ℥i. or more may be carried into the bowel before the tube is removed.

When there is defective starchy digestion the subcarbonate is to be preferred, as it is more antacid than the subnitrate, but in the majority of cases the subnitrate is the more reliable.

The other compounds of bismuth, the salicylate, beta-naphthalate or the subgallate, are only of benefit from their antiseptic properties, as their doses are too small to have any markedly local sedative effect. Its recommendations are: it is sedative and nontoxic (if it be pure) and combines with noxious gases in the bowel, forming innocuous compounds.

Opium should be used to relieve pain and particularly to control peristalsis. It is unfortunate if it is required before the bowel

is cleansed. Its use certainly should be delayed if possible until we secure the full effect of our initial purge. While the temperature remains high its use should be restricted. It should be administered separately and never in mixtures, either per os or as a suppository or in combination with starch, per rectum. It is contra-indicated where there is cerebral-edema, as it is in all cases of stupor.

The necessity for its administration must always be considered an unfortunate one, but in cases of violent colic, unrelieved by other measures, and especially in the later stages of these digestive disorders where we find excessive intestinal peristalsis, its judicious use is most satisfactory and safe. It controls peristalsis, puts the gut at rest and favors resolution.

This is illustrated in a rather unpleasant way by a case reported to me of an obstinate ileo-colitis. The parents of the child had become impatient with the daily flushings of the colon practised by the attending physician—one of the highest reputation—and acting on the advice of a neighbor dismissed the physician, and had recourse to the use of a proprietary medicine of which opium is the chief ingredient, and boasted of a speedy cure. They would probably have had a different experience had their patience been exhausted sooner, *i.e.*, before the gut had been cleansed.

As to the profitable use of antiseptics I am very sceptical in any case. Certainly in the early stages of the acute digestive disorders I believe they often do positive harm. When you consider the extent of surface to be disinfected and the quantity of poison to be neutralized, the dosage must be large—incompatible with the life of the child if neutralization is to be complete; for the rule which applies to antiseptics in surgical practice applies here, that to destroy bacteria high percentages are required; and while physiological doses may have a retarding influence upon the putrefactive processes, at the same time they still further harass an already overpowered membrane. The salicylates are depressing: the naphthol preparations are pungent and burning; the iodine preparations often are most irritating. Resorcin I have seen in grain doses in a child of one year produce severe epigastric pain. We know that it has been the difficulty in surgery to secure an antiseptic that is unirritating to a wound, how much more difficult to secure one unirritating to an already inflamed stomach and bowel. Why should we so sedulously look for one when we have nature's to hand—the bile and free HCl—and when the efforts to secure these are the very efforts we employ to get rid of the offending material.

The administration of antiseptics in the acute stages of these disorders as commonly practised, appears to me much the same as a surgeon trusting to his carbolic solution, to the disregard of soap and water, clean linen and his penknife.

In the later stages I believe they are of great benefit. They should be given in the food or immediately after it, certainly not before it. Our object in using them should be to prevent putre-

faction, not to overcome it. I do not propose to enumerate and analyze the various antiseptics, but will only mention one which I believe one of the best although not commonly used, namely, hydrochloric acid. It must be well diluted and given after food. Very young children are often disturbed by it.

Astringents have a very limited use in the treatment of these diseases. Their administration per os is a source of irritation, while in cases of colitis, per rectum they are of the greatest value. The most satisfactory to me has been the undistilled fl. ext. of Hammamelis, ℥i. of which added to the last pint of the saline enema controls the number of the discharges markedly and has a distinct sedative action upon the mucous membrane.

Antipyretics must be used with extreme caution. If any of the coal tar products be used, it should be at first only in minimum doses and guarded by strychnine, caffein or other heart tonic. The safest of all, and perhaps the most efficient, is the cold sponge or spinal friction with a lump of ice. The temperature is lowered with safety and nervous excitement allayed.

Stimulation is required in all severe cases, and generally urgently so. As indicated by the pulse, strychnine and brandy or whiskey are generally a necessity in some stage of the disease, and often very early.

In protracted and severe cases we sometimes find a slow and irregular pulse, which impresses upon us the gravity of the case.

There are one or two features of the hygienic treatment which I would like to emphasize. In the acute stage the child should be kept in an airy room with a temperature as near to 68° or 70° F. as possible and not too bright. While sunlight is of inestimable benefit in the late stages, and so important a factor in the maintenance of health, while the nervous symptoms are at their height it does not conduce to repose but irritates an already irritable child.

The clothing should be light but of wool. The child should be kept in its cot or cradle as much as possible. The use of a hammock has the advantage of being airy, noiseless and comfortable. After the severity of the attack has passed a change of air is often of more benefit than all medication, but where that is impracticable the child must be kept outside as much as possible. In hot weather it is much better that the child should be kept quietly within doors, if there be no convenient shady spot to which it may be taken.

The advisability of sending a child out on daily excursions, *e.g.*, to our island or on the lake, is to my mind very doubtful. The confusion attending the excursion, the crowds and noise and commotion are exceedingly injurious, and often and often I have seen an attack excited by such a day's outing. The sail upon the lake, of course, is exceedingly desirable, and a quiet day at the island one would think to be most beneficial, but if these are attained only through a half hour's confusion and noise of the wharves and downtown streets in the morning and a recurrence of the same upon the

return, they cease to be an unmixed blessing. Confusion, excitement, noise and fatigue must be avoided.

Anything like full discussion of the treatment of these diseases, or even the exhaustive discussion of such a grave condition as cholera infantum or other of the diseases mentioned, is beyond the limits of this paper, and a task which I would only undertake with greatest hesitancy. My only purpose is to emphasize a few of the features of the successful rational treatment of our little patients as it appeals to my mind.

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ANESTHESIA BY CHLOROFORM AND ETHER.

BY WILLIAM B. JONES, M.D., ROCHESTER, N.Y.

ALTHOUGH there is sufficient of admonition against poor methods of administering anesthetics, and of pleading for humane consideration of patients, it is still done in a way that is reprehensible and shocks sympathetic observers. For about twenty years I have witnessed operations, and among many thousands have seen very few die of the anesthetic, yet every one of these was an unnecessary death. But I have seen more than I can describe of avoidable distress and danger.

Not every competent physician is a good anesthetist, or can become one. A special talent is needed as much as to be expert in diagnosis, surgery, or any branch of our art. Yet it is not infrequent to entrust the ether to the least experienced physician present, because he must be asked to do something lest his feelings be hurt, and he is not skilful enough to do anything else. In hospitals it is customary to have it done by the member of the resident staff who is the latest comer from college, and as the colleges do not adequately teach it, he learns on the patients, too often the best he can by himself, without practical instruction from anyone. So it happens that in a majority of cases the giving of an anesthetic is accompanied by suffering and danger that are needless. Nearly everyone who has taken it dreads it more than pain. The terror of suffocation, struggle, and restraint, the horror of the sensation of impending death are vividly before the mind after time has nearly obliterated all lively remembrance of the pain. Those who know most about it dread it most. Physicians are not backward about submitting to operations, but they are about taking anesthetics. Among every three or four anesthetizations, by as many physicians, there are one or more terrifying experiences before loss of consciousness. Ask any patient who has submitted to it and you will get a graphic description. And after consciousness is passed there are the dangerous fluctuations, at one time exasper-

ating the operator by straining, vomiting, or muscular rigidity, interfering when time is precious. Then when he is hurrying to make up for it, comes the announcement that the condition is alarming. Then follow the anxiety as to whether it is so, the confusion of giving or not giving restoratives, and afterward the operation must be finished. After such an experience the surgeon is not in his best form. And the pity is that it is not necessary.

The anesthetist should know the name, age, and general condition of his patient, the result of urinalysis, including total solids excreted in twenty-four hours, the condition of the heart, vessels, and circulation. A careless listening for murmurs is a farce. A murmur ordinarily makes no difference. He should know the efficiency of the heart's action, strength of its muscle, and whether the arteries are resilient and strong, or fibrous, or atheromatous; also whether well filled with good blood. In examining the lungs he should not omit to look for pleuritic fluid and old adhesions. When artificial teeth are admitted, remove them before commencing; when denied, see if they can be a few moments later. Note any deformities that they may be favored by posture, and any partial paralysis that you may not be worried by discovering it after the operation. Learn the manner in which anesthetics have affected the patient if ever taken before, and whether opiates cause nausea and depression.

The anesthetist should know the proposed operation, and the surgeon's usual method and time required. In every serious operation there are stages where deeper anesthesia are essential, and others where less will maintain the ideal passive condition. It must be just right all the time, and with the least possible of ether or chloroform.

The simplest preparation is best. Chloroform and ether in measured quantity. The amount used should be known. For an inhaler I prefer a napkin of gauze to hold in my fingers; for a bottle to use, cork the original container or any common bottle with wool or cotton batting loosely inserted. The liquid can be dropped at any rate desired. It is unnecessary to disgust the patient by smearing vaseline all over his face; the vapor does not excoriate, and running ether all over the skin is inexcusable. One hypodermic syringe loaded with one-fifteenth gr. strychnia nitrate or sulphate, to be used in two doses. Another with nitro-glycerine one-fiftieth gr., and atropine sulphate one one-hundreth gr., a basin for vomiting, and towels. It is better to administer no drugs beforehand. There should have been an easily digested meal about twelve hours, and a cup of soup, broth, or gruel, four hours before. When beginning have the room very quiet; permit no conversation, and as few people present as may be, preferably one nurse only. Speak to the patient in a way to allay apprehension, but let it be very few words.

Place the napkin over the face upon your outspread fingers. Drop chloroform slowly and regularly upon it, not stopping until

the operation is finished. The rate will vary, but as evenly as possible. Continuous effect is extremely important. At first the vapor irritates mucous membrane, excites the patient, and tends to a reflex that may stop the heart. For the comfort of the patient, for his safety, and for the hope of keeping from the remorse of having needlessly sacrificed a human life, give it slowly until sensation is a little benumbed. Neither should be given fast enough to cause the cough and suffocation so often seen, and crowding ether early is the brutal, inhuman way that stirs one's soul with indignation. The suffering of that is fearful. About eight to twelve drops of chloroform a minute. Then increase the rate to thirty or forty until reflexes are abolished, when it should be reduced to just what is needed—eight to twelve in most cases. I have seen a laparotomy with ideal anesthesia maintained with four drops a minute for half an hour. For ether the quantity is much greater, but the method the same.

Unless unfavorable symptoms occur, let the pulse alone. The hue of the face tells more than the pulse does about the efficiency of circulation. Blanching or cyanosis denotes failure of force of the heart. They almost always occur very gradually, and should be noticed immediately. A little less of the anesthetic relieves the condition promptly. If not, change from chloroform to ether, or if already giving ether administer a heart stimulant.

If blanching comes suddenly the same indications are more urgent. Pupils and pulse correspond and denote more acute and severe prostration. It may be only nausea, and in that case soon passes off. Pulse rate of itself signifies very little and may be taken at the temporal arteries without extra motion. Fumbling by the wrist is done by beginners.

Upon the sympathetic system depends the existence of life. Nowhere is there another available index so accurate as the pupils; study them well, and observe them frequently, even continuously. With the effect of both ether and chloroform they gradually lose their reaction to light, and it deepens until death. They also contract until just as dissolution is impending, when they dilate widely, and this warning is usually early enough to give time for successful efforts at resuscitation. A contracted pupil beginning to dilate without reaction to light signifies gravest danger, with reaction, that narcosis is passing off. The conjunctival reflex is of little value, being lost before the surgical stage develops. Yet a surgeon telling that the patient is not yet under, is often answered, "He must be; his reflexes are gone at the eye." That obtained by brushing the eye-lashes is more reliable, and does not cause sore eyes afterward.

I have yet to see trouble without premonitory disturbance of respiration. Before complete anesthesia irregularity makes no difference, except that when breathing is exaggerated the drug should be administered more sparingly because it is being taken faster, and when diminished it may be crowded, so little air and vapor are

being consumed. If shallowness persists to an alarming degree substitute ether for chloroform. Its greater irritation of respiratory mucous membrane, and primary stimulation of the heart, will restore adequate respiration.

I would urge above all else that the anesthetist must know how every breath comes and goes. It should be free, regular, effectual, and quiet, or with the gentlest tendency to a nasal snore; and all this can be. It is someone's fault if it be not so. Most people have learned that during sleep snoring is exhausting. The impediment of enlarged tonsils or adenoid vegetations cause restless sleep, tired waking, exhausted, debilitated children. Moderate dyspnea of laryngeal diphtheria causes rapid exhaustion with pulmonary congestion or pneumonia. Yet the ideal of many is to keep the surgical patient so nearly choked by his own tongue and palate that his stertorous breathing is louder and more difficult than any of these conditions. Without an operation an hour of such anesthesia is enough to prostrate a strong man. It adds greatly to the shock and the mortality. It is frequently done in this way, and is unwittingly an inhuman abuse of a helpless person. I cannot understand why it does not seem clear to everyone, unless, influenced by insufficient teaching rather than by reason, the administrator remembers that stertorous breathing occurs with surgical anesthesia, and is gratified to have it as much so as possible. Stertorous breathing does not occur with surgical anesthesia if the anesthetist knows his business and is faithful to his patient. The head should be over extended by placing the pillow under the shoulder, not the neck. That opens the air passages, and there is no occasion for pulling on the jaw and bruising it, or pulling out the tongue with forceps, or piercing it with a needle and thread. If that is not known to anyone, let him extend the head upon the the back as far as he can and then try to swallow. It is impossible to close the glottis or to interfere with respiration.

Regular rising and falling of chest or abdomen do not always denote breathing. Know that air enters and leaves the mouth and nose. With the tongue dropped so far back as to entirely close the glottis, the respiratory muscles may continue rhythmic though gradually weaker action until from apnea the heart begins to fail and the face to blanch. More than once I have had attention called to this condition, and an assistant giving heart stimulants, and the patient was moving no air through his trachea, the heart getting weaker and weaker, the pulse flickering and by this time feeble. Extension of the head and raising of the lower jaw liberated the epiglottis, and with fresh air in the lungs the heart impediment quickly dispersed. I believe many such cases going on to death are reported as showing and dying of failure of the heart with satisfactory respiration, the truth being that unnoticed they suffocated. There is need to establish a recognition of the fact that during anesthesia absolute stoppage of respiration occurs without struggle, noise, or anything else to attract attention, and results in

rapidly progressive failure of the heart, and death with the pallor of the latter—not cyanosis. In dyspnea or apnea cyanosis occurs with exaggeration of respiratory efforts, pallor without. Again with mucus or vomited liquid in the throat there is partial suffocation, the respirations are noisy and with more effort, but after a time respiratory muscles tire and weaken like any others. If nothing be done they will do less and less, and the patient will drown. You may see experienced men let it go on to extreme danger. If it cannot easily and quickly be sponged out of the mouth with a gauze napkin on the finger, turn him over and let it run out; then turn back and go on. My remarks about the exhaustion of dyspnea apply to the same from this cause. Fluid should not be allowed to remain in the throat, but cleared out at once, even if necessary to interrupt the operator.

Now, with unobstructed air passages, if during the operation respiration becomes irregular find out immediately what it means. Oftenest more anesthetic is required, the patient is reviving; manipulations of the operator may cause it and then it will soon be normal again. But if from neither of these it is a warning of immediate danger. At once take measures for resuscitation to be described presently.

Having finished without trouble lay a napkin across the patient's eyes so that when he wakes all will come to him gradually, especially avoiding the sight of what is strange and maybe terrifying. Do not leave him until he is able to answer intelligently any simple question, and then with a nurse or friend. For subsequent nausea and depression vinegar bathed upon all the face, and its fumes breathed continuously from a napkin are grateful. Mustard or other counter irritation to the epigastrium are helpful. The urine should be examined every alternate day for a week, especially after ether, because nephritis takes off some during the first two weeks.

The symptoms of impending death are irregularity of respiration, weak, shallow and failing, or strenuous and deep like a mighty sighing, and dilation of the pupils in paralysis without reaction to light. It is the vacant stare of the dying and resembles nothing else. Almost inevitably, though we are told not quite so, the respiratory warning comes first, but even at first appearance of the other usually there is time to save life. Stop the anesthetic, ensure admission of a strong current of fresh air upon the face, perform artificial respiration, acting with and not against what efforts are automatically made. See that the air passages are not closed by relaxation or otherwise. Seize the tongue with thumb and fingers in which is held a towel to prevent slipping and retract it gently but forcibly just before each desired inspiration. There is a tendency for each retraction to be followed by a deep gasp. This should harmonize with other efforts at artificial respiration. The contents of two syringes can be used, giving nitroglycerine $\frac{1}{50}$ gr., atropine $\frac{1}{100}$, and strychnine $\frac{1}{15}$, or half of each if

symptoms are not too urgent. The head should be lowered and respiration continued. If it is not satisfactory the O'Dwyer-Fell artificial respiration apparatus should be used, or one equally as good.

Ether is less depressing than chloroform to the heart, respiration and nervous system during administration, but afterward more so, and besides is oftener followed by pneumonia, bronchitis and nephritis. They are not uncommon dangers. It causes so much secretion of mucus in the respiratory passages as to be a frequent interference to every one concerned, and occasionally a menace to life. Even after being put to bed if not yet well recovered a patient may suffocate from it. The nausea and prostration afterward are so much greater as to be dangerous to a very weak person. The danger while on the table is less from ether, but afterward so much greater that I am convinced that ultimately more people die of it.

Chloroform probably kills in three ways:

1. Suddenly with only a few whiffs and the patient still conscious; not enough drug to cause it. Undoubtedly fright has much to do with it. It is just as the same thing occurs and nearly as often from an incision made, or from the attempt to make one, without any anesthetic. We do not hear of such accidents with ether, and that may be because of the primary stimulation of ether.

2. Just at the beginning of deep anesthesia, in patients who have scarcely breathed at all for a time, allowing the air in the mask, mouth, pharynx and larger bronchials to become saturated with chloroform, then with or without struggling, deeper inspiration conveys it to the heart in solution so strong as to paralyse it. Laboratory experiments demonstrate that a small quantity paralyses the heart if applied directly or in strong solution, but would be harmless by slow inhalation.

3. Gradually, like ether, a protracted administration slowly weakening not only the heart but the whole vitality. Respiration and pulse fail together, and it is immaterial which makes the last feeble attempt. Respiration will usually show impairment before the heart does.

It is the logical conclusion that chloroform should be used for all with well acting hearts with or without valvular lesions if the anesthetizer is competent to give both; that where the patient's respiration and circulation are poor, ether should be substituted as soon as that is noticed. He who has learned ether and then chloroform may return to ether and find he gives it better than before and uses only a small part of the quantity he formerly did. For him ether is as safe as chloroform, but not till he has that experience is he fully qualified.

A skilful anesthetist needs no suggestions or assistance from the operator, and does not annoy him in any way but attends to the patient whatever his condition, gets out of all difficulties with his own resources, and only speaks in the almost unknown event

of its being necessary to stop or shorten the operation. He should keep the patient warm, and, if possible, dry, prevent anything that would interfere with respiration, not hesitating to direct a change in the arrangement of wrappings or the position of operator or assistants, especially if any one leans upon the patient's chest. Prevent undue pressure upon any part. The patient's limbs must not be bruised against the table edge, or his nerves paralyzed by over extension of a joint, especially at the shoulder. Insufflation of mucus, vomitus, and sometimes blood and irrigating solution must be avoided. It should be remembered that with extreme abdominal distension, relaxation may let loose a deluge of fluid vomites that drowns in spite of all care. For such it is safer to keep the head and chest high from the first. See that the operating room is warmed to about 80°, or if cooler, have heaters and woolen blankets used freely. Death from thermic fever has followed operation in very warm rooms. There is lessening of resistance to both heat and cold, and they should be guarded against most carefully. His responsibility is in no way second to the surgeon's, and he is not filling his position unless he feels it to be so, is able to do his work through with good nerve and quiet dignity, in himself equal to every emergency and, regardless of any excitement of others, commanding and directing all that pertains to it, allowing nothing and no one to interfere with him. Most of all interference to be disregarded is that of the operator. The latter may well inform him if relaxation is incomplete, but he is not in a position to know how much more should be given, and positive direction of the anesthesia is not for him. Criticism, levity, scolding are most unseemly. Ignore them like a gentleman, and with undisturbed equanimity attend to business. A record should be filled in for every case, observations being recorded every ten minutes. This ensures close attention and afterwards furnishes evidence of good work.

In a very few hospitals there is an anesthetizer for all major operations, who has earned a reputation as a specialist. There is a marked result in safety and comfort to patients. Accidents and embarrassing delays are practically unknown. An index of it is the small quantity used. One friend tells me of a laparotomy lasting an hour with two drachms of chloroform, another of about the same with two ounces of ether. The day after operations their wards do not resemble the deck of an excursion steamer in a storm. But, as a rule, present methods need to be changed. Most of the danger and distress are due to culpable management of the institutions. The profession in and out of them should at least require that an experienced man be present to direct and teach. Where there is much surgery each interne becomes one, but not until the end of that part of his service, and therefore it is practically always done by one who is not. In charity wards it is an abuse of people doubly helpless, being ignorant of the matter and too poor to have it different; to paying patients an imposition, and breach of an

obligation to provide every safety in their peril. Hospital surgeons usually have to use what the hospital provides, yet that does not remove their responsibility. Would you excuse a physician who engaged for a laparotomy a surgeon whose skill had been derived from studying books and seeing a few operations from back seats in large clinics? Yet from books laparotomy is easier to learn than anesthesia.

Wherever there are hospitals it would be practical to secure men upon the staff in this capacity, or if done by the junior house-officer as now, a specialist could work with him at least until he became confident of himself.

I believe also that the time is ripe for the professional anesthetist in every city. The pendulum is now swinging toward operation in private houses. It is to be done more and more. There will be people who can afford and are willing to pay a little more for greater skill in this part of the work, and a man in general practice can also be an expert anesthetist.

RECORD OF ANESTHESIA.

No..... Name..... ..... Age..... Date.....

Diagnosis.....

History of previous anesthesia.....

Effect of Opiates.....

General condition.....

Examination of Lungs.....

" " Heart.....

" " Vessels.....

" " Urine.....

Chloroform—Begun..... Ended..... Time..... Quantity.....

Ether " ..... " ..... " ..... " .....

Operation " ..... " ..... " .....

Pulse (every 10 minutes) Respiration Pupils

....

....

....

....

....

....

Remedies administered.....

Operation.....

Specimen.....

Remarks.....

215 Lake Ave., Rochester, N.Y.

CASES OF PUERPERAL SEPSIS TREATED WITH ANTI-STREPTOCOCCUS SERUM—WITH NOTES.

BY GEORGE T. McKEOUGH, M.D., M.R.C.S.(Eng.),
Chatham, Ont.

June 25th, 1899.—Mrs. R. M., aged 25; farmer's wife; personal and family history good. She was confined with her second child five days ago. There was no medical man in attendance at the confinement, neighbors only assisting. On the day following, the patient's "genitalia" feeling sore, a quantity of that infallible remedy, goose-grease, was injected into the vagina. I saw her for the first time to-day; complained of headache and chilly sensations; temperature 103° F., pulse 100, lochia scanty, plenty of milk. Ordered vaginal injections of carbolic acid lotion 1-60 every 3 hours, a purgative and large doses of quinine.

June 26th.—Received a morning report that patient was better. Was called in the evening again, patient having had a severe chill during the afternoon; found her restless, looking ill, and temperature 104° F. Gave an intra-uterine douche of carbolic acid lotion.

June 27th.—The patient was brought into the City Hospital this morning in an ambulance, a distance of six miles. She did not complain of the journey; temperature on arrival was 102° F., pulse 90. Carefully curetted the uterus with a dull spoon curette and douched with carbolic acid solution 1-80. Several abrasions of the vulva and vagina were covered with the usual greyish-white coating of infected puerperal wounds. Ordered whiskey, strychnine and the intra-uterine douches every four hours. Her temperature in the evening was $102\frac{2}{5}$° F., and had not exceeded that all day. At 10 p.m. injected 10 c.c. of antistreptococcus serum in the fleshy part of the thigh.

June 28th.—Her temperature gradually fell during the night and registered $99\frac{1}{5}$ at 8 o'clock this morning. Repeated 10 c.c. of serum. The abrasions in the vagina were still covered with the grey diphtheritic-looking membrane, as was also a large everted laceration of the cervix. Patient, however, felt better. Continued intra-uterine injections of carbolic acid solution every eight hours with vaginal injections in the intervals. Temperature registered $100\frac{1}{5}$° F. at 8 p.m., and pulse 90. Did not use serum this evening, my supply being exhausted.

June 29th.—Temperature this morning at 8 a.m. was $101\frac{1}{2}$° F. Bichloride 1 to 5000 was substituted for the carbolic acid in the intra-uterine injections, and continued every four hours. At noon to-day she had a rigor, and at 5 p.m. her temperature rose to 105° F. The entire vagina, the cervix and as much of the interior of the uterus as could be seen was coated with a pearly grey membrane. I telephoned during the afternoon to Parke, Davis & Co.,

Walkerville, for more serum, and in the meantime, in the absence of any bacteriological examination of the discharges, and knowing that the Klebs-Loeffler bacillus in the vagina and uterus produced puerperal fever, I injected 2000 units of diphtheria antitoxin. The patient looked and felt badly to-night. At 9 p.m. her temperature was 103° F. and at 11 p.m. it was again 105° F., notwithstanding the constant application of cold by means of the ordinary wet pack rung out of ice-water.

June 30th.—Cold bathing was continued. The intra-uterine douche of bichloride was given every four hours. Strychnine $\frac{1}{30}$ gr. was administered hypodermically every four hours, and whiskey $\frac{1}{2}$ oz. every two hours with milk, beef tea and sugar and egg mixture. The temperature raised from 103° F. to 104° F. during the morning. There was no pain, tenderness or tympanitis; the vagina remained thickly covered with the membranous deposit. At 12 o'clock, having received more serum, I injected 10 c.c., the temperature being at that time $104\frac{1}{5}$° F. The fever gradually subsided during the afternoon, and at 8 p.m. the thermometer registered 101° F. when 10 c.c. more of the serum were injected. Her gums being slightly reddened and swollen, and the bowels moving frequently, I substituted carbolic acid for bichloride for intra-uterine and vaginal douche.

July 1st.—Patient rested well during the night. Temperature this morning registered only 99° F. There was quite a profuse discharge from the uterus and vagina, which were becoming cleaner, the membrane peeling off. Again injected 10 c.c. of serum. Patient remained well all day; the temperature did not exceed $99\frac{1}{5}$.

July 2nd.—At midnight the temperature advanced to 101° F., but cold sponging was resorted to, and it did not go beyond that. At 8 a.m. the thermometer registered 100° F. My serum was again exhausted. The patient being so much better the day before, I thought recovery was in sight, and to-day being Sunday I was unable to get by telephone Parke, Davis & Co.'s laboratory in Walkerville. The intra-uterine douche was continued regularly, but in spite of them, large doses of quinine and cold sponging, the temperature rose to 104° F. and pulse 136 during the day, and the vagina, which was cleaning off nicely, again became covered with the grey membrane.

July 3rd.—The temperature varied to-day from 101° to 103° F., the same treatment being continued. More serum having arrived, I injected this evening 10 c.c.

July 4th.—Her temperature this morning was 99° F. Ten c.c. of serum injected. During the day, as on previous occasions when the serum was used, the discharge from the uterus and vagina was profuse, the grey coating peeling off and the vagina becoming clean. Temperature at 9 p.m. was 100, pulse 100, 10 c.c. of serum being again administered.

July 5th.—Temperature this morning was 99° F. and remained low all day. The intra-uterine douche was used every eight hours

only, patient being much improved generally. Quite a profuse discharge continued from vagina.

July 6th—Temperature normal. Recovery from this out was ideal and uninterrupted.

A few weeks before this case came under my care I saw with Dr. Langford, of Blenheim, a case of puerperal fever which we thought was due to some unsanitary environment. Dr. Langford had been using the orthodox treatment for several days, the fever persisting. He subsequently used the antistreptococcus serum and he thought beneficially, the patient making a good recovery. A short time afterwards he saw another case with Dr. Marr, of Ridgetown, in which they used the serum, the patient recovering.

My partner, Dr. Holmes, consulted with Dr. Hird, of Wallaceburgh, in a case recently and suggested the serum. Dr. Hird was very strongly of the opinion that its use was markedly beneficia

Dr. Sharp, of Tilbury, has informed me that he used the serum in one case, but after each administration there was an elevation of temperature. It was not used, however, until the third week of the disease, the patient dying in the fourth week.

Apparently the use of the serum in the case which I have reported somewhat fully was advantageous. Thirty c.c. were used in three doses, at intervals of about twelve hours on three different occasions, and on each occasion the temperature fell, the condition of the vagina so characteristic of puerperal infection improved, the patient's general condition was much better, and after the last injection recovery ensued.

Published reports of the use of the serum in puerperal septicemia are most conflicting and, on the whole, possibly not encouraging. It evidently, however, exerts no pernicious or baneful effects, and, I believe, merits a continued use. From published reports and my own limited experience, to be of much avail it would seem that, like the diphtheria serum, it must be used early, repeated frequently, its administration persisted in, and in the more severe and malignant forms of the disease in large doses. The nature and character also of the specific poison producing the fever have much to do with the benefit to be derived. It can not be expected to be of much use after septic foci have developed elsewhere than in the uterus, or numerous abscesses formed in the uterine wall. Nor do I think that the use of the serum, even if valuable in itself, will do away with the washing out and drainage of the uterus, which is probably the most important factor in the treatment of puerperal sepsis. How often large quantities of a foul ichorous-looking discharge escape from the uterus on gently dilating the cervix or introducing the intra-uterine nozzle for the purpose of washing out the uterus. This discharge must be kept washed and drained away, but if the serum would limit the application of the douche, it will be a great desideratum, especially in country practice, where, until the public as well as medical men learn the well-established principles of prophylaxis in puerperal cases, there will be every now

and again cases of puerperal septicemia, as frequently no doctor is present at labor cases or consulted in regard to them.

Marmoreck maintains that an indispensable condition in successfully carrying out this treatment is the determination by bacteriological examination of the presence or absence of the streptococci. This will not be an easy matter in the country, where possibly the largest number of cases of puerperal fever will occur. However, there is no doubt the large majority of cases of puerperal infection are due to the streptococci; but puerperal fever, so called, is a very comprehensive term, and may not be due to streptococci or staphylococci. Olshausen states that infections of the genital tract, such as tetanus, scarlatina, diphtheria and especially gonorrhea, may cause fever in puerperal women by no means essentially puerperal fever. Besides, in a recent discussion before the Obstetrical Society of France, it was stated that there were no less than fifteen varieties of streptococci, any one of which might cause puerperal septicemia, and that if this serum was to be of any advantage, it must be possible to identify the numerous varieties and treat each with a special serum. If this should be the case, it would be quite unpractical and the use of the serum quite limited.

The average dose of the antistreptococcus serum is 10 c.c. In severe cases 20 c.c. would not be too much at one injection, and as much as 100 c.c. has been given in twenty-four hours.

The serum used in all the cases referred to in this paper was prepared by Parke, Davis & Co., Walkerville, and I have no doubt is as carefully and skilfully prepared as their diphtheria antitoxin with which I have had a large, successful and happy experience.

In regard to one or two other points in the treatment of the case reported, the diphtheria antitoxin used did not seem to make any impression on patient, neither on the temperature nor on the appearance of the vagina. In a paper read before the County of Kent Medical Society some years ago I reported the successful treatment of a stubborn case of puerperal septicemia with cold baths. Dr. Hanks, of Blenheim, informed me a short time ago that he had treated in a similar way with most satisfactory results since a desperate case of puerperal fever in which the intra-uterine douche failed to affect the temperature of the patient.

The Obstetrical Society of France had a discussion on puerperal sepsis in April of this year. Refrigeration had many advocates, although the results were not comparable to those obtained in typhoid fever. The beneficial results of the application of cold in puerperal fever, are not so pronounced as in typhoid, but its action has a tonic and stimulant effect upon the heart, lungs, kidneys and nervous system, slowing the pulse and respiration, increasing the secretion of urine, quieting a restless patient and fortifying the system against the inroads of pathogenic bacteria.

THE HOSPITAL ROOM IN EACH DWELLING.

BY W. J. TELFER, M.D., C.M. (McG.), MONTREAL.

One of the first considerations when assuming the care of a patient is the placing of that patient in the best available surroundings. When face to face with this problem we are often at a loss, even in the best of houses as now constructed, to give our patient fair play. Sickness comes to every family, but this fact, it appears to me, has been hitherto ignored by architects in the construction of dwellings.

Great advance has been made in recent years in the direction of compactness, comfort, etc., and it appears to the physician that almost everything else has been thought of in the planning and finishing of dwellings to have the maximum of comfort and convenience at the minimum of cost, but no thought has been expended on that portion of the dwelling to be occupied by any unfortunate member of the family who may be taken ill.

In planning the hospital room, the following conditions should take precedence: lighting, ventilation, control of temperature, sanitation, access, isolation and aspect. While we should not lose sight of the importance of having this room pleasantly situated, the frequent necessity of isolation and freedom from noise and odors, especially in town houses, must be taken into account, and though it may be impossible to attain to perfection, I am of opinion that even in the most humble dwellings arrangements may be made whereby the physician's endeavors may be greatly facilitated.

It is not my idea to take up an important part of the dwelling to be reserved for use only in time of sickness. Indeed, this apartment should be the favorite one when there is no sickness in the family; nevertheless, when occasion arises, it may in half an hour be changed into a more or less complete hospital.

The ceiling, walls and floor must be finished so that they can be washed clean. Such furniture as may be necessary must be so constructed as to be readily rendered aseptic. There should be ready access to water and toilet adjuncts. In town houses a special bath and water-closet should be arranged for; in country houses movable substitutes for these can be used with easy access to the outside. Where isolation is imperative, either the front or back entrance with its stairway may be temporarily set apart for the use of the patient's attendants. More or less complete arrangements could be made from the above suggestions in dwellings already constructed, and with these points properly considered in the planning of new houses, very satisfactory conditions may be attained.

The assistance of trained nursing—thanks to the zealous teach-

ng of this subject throughout the land, and the enthusiasm with which it has been taken up by capable women—is now, or soon will be, practically within the reach of everyone. With this assistance and the hospital room, the physician would be able to give the sufferer every chance of recovery. While the necessity which now so often arises for the removal of patients from their homes with the hardship, suffering and expense which this removal entails, could be in nearly every case obviated. With few exceptions, given the facilities here outlined, the sick can be most effectually treated at their own homes.

The advantages of the hospital room in each dwelling must be great and far-reaching. Not only will the patient be more effectually treated, but by this means attacks may be shortened, contagion obviated, suffering and expense much lessened, while an object-lesson being continually before the eyes of the laity on the great subject of antisepsis, the tendency should be mighty towards prevention.

Where surgical interference is required, we are constantly under the necessity, in the present state of affairs, of removing the patient to a hospital, often at the sacrifice of time, which is vital, and with great suffering, danger and expense to the patient. How much easier, in almost every case with the patient already in the hospital room, to bring the surgeon and his equipment to the assistance of the sufferer. The general practitioner would also be encouraged to advise and undertake operative work which without the hospital room might be imprudent.

One department of medicine in which we at present fall very far short of the ideal, is the preventive treatment of contagious diseases, solely for the lack of a hospital room in each dwelling. Had we this room at our disposal, the moment that suspicion arises the patient could be effectually isolated, rational up-to-date treatment carried out, while after convalescence, the hospital room and all accessories could be perfectly disinfected. Contrast such a course with what at present obtains. The patient, often of a tender age, is kept for days where contagion is rampant, awaiting an absolute diagnosis. Then we have, in the cities, two alternatives—either isolation is attempted at home, to the great risk of the other members of the family and those with whom they come in contact, or the patient is given over to the horrors of the ambulance and the hospital for contagious diseases, which, in cases of very young children, is so often tantamount to signing their death-warrant. We have an example of this in our own city of Montreal, where the contagious diseases hospital is so ill-equipped, notwithstanding the zealous efforts to the contrary of our city medical officer.

It is hardly necessary for me to refer to the usefulness of the hospital room in obstetrics. I am persuaded that every accoucheur will at once appreciate the boon that this would be to the patient,

doctor and nurse, not to speak of the improvement there would be in the statistics relating to this department of our work.

In caring for patients suffering from chronic diseases, and more especially those of an infectious nature, whether the patient be bed-ridden or ambulant, what an advantage would be the hospital room, with the conveniences which could be there arranged for alleviating the distress of this really large portion of suffering humanity, while materially lessening the heavy burdens of those whose lot it is to care for incurables.

I may add that I have discussed this subject with one of our leading architects, who assures me that the idea is entirely practicable, and that it only remains for the medical profession to persistently advocate this reform to have it adopted.

A Grant for Professor Koch.—The German Reichstag has made, according to *Science*, a grant of 60,000 marks for Prof. Robert Koch's approaching expedition to the tropics to investigate the nature and origin of malaria.

Heroism of a Nurse.—The trustees of St. Luke's Hospital, New York, at their last meeting passed a resolution expressing their appreciation of the heroism displayed by Miss Francis C. Troop, a graduate of St. Luke's Training School for Nurses, in saving the life of her patient at the Windsor Hotel fire. The patient was the invalid daughter of Mr. Leland, the proprietor of the hotel, and she had to be brought down from one of the upper floors.

Proposal to Erect a Monument to the Late Dr. Rolph.—A bust of the late Hon. Dr. John Rolph has recently been placed in the Museum of the Education Department in Toronto. Dr. Rolph was one of the most energetic and ablest of the Reformers during the old "Family Compact" days, when this meant a great struggle for years—a struggle as often apparently hopeless as it was thankless. But after many years it brought about responsible government in Canada, to which she owes her present proud position, as at once practically a self-governing nation, and a most loyal part of the great British Empire. Dr. Rolph was also the founder of medical education in Ontario, and an abler or more zealous teacher could not be. His remains lie in Mount Pleasant Cemetery without, as yet, a stone to mark the spot. It has been suggested that it would be a graceful and well-deserved tribute to his memory for his friends still living amongst the old Reformers, and the great number of medical men scattered over Canada and the States, whom he educated, to send in subscriptions for this purpose, so that a modest, yet appropriate monument might mark the spot where his dust lies. Dr. Geikie, Dean of Trinity Medical College, Toronto, would be glad to receive such contributions, and to see that the desire of those sending them was suitably carried out.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

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Editorials.

MODERN RIFLE BULLETS.

OPINIONS differ as to the severity of the wounds produced by modern military rifle bullets, and in this connection we do not refer in any way to the dum-dum bullets. In South Africa many wounds caused by ordinary Mauser bullets have healed rapidly; and, on the other hand, some wounds have been of great severity, so much so, indeed, that the epithet "humane," when applied to the new bullet, appears rather ironical.

In an article which appeared in this magazine, November, 1897, we described some injuries inflicted by the Lebel rifle bullet (French), which closely resembles the Mauser. The experience of a French surgeon was quoted to show that its penetrating power is wonderful, and its capacity for producing destructive lesions at short range enormous. He says: "At the battle of Dogba, September 19th, 1891, the Dahomeyans, covered by the Arabs, advanced to within twenty metres of the French camp. After the battle we could see three dead bodies of the enemy, one behind the other, all bearing penetrating wounds at the same height from the ground, and inflicted by one bullet, which, prior to striking them, had passed through the trunk of a palm tree." He gives two instances of the so-called "explosive" character of the Lebel bullet. An Amazon, who fought in the front rank, was killed at the very moment when she brought her gun to the shoulder. A Lebel bullet, fired at about sixty metres from the woman, had struck the lower extremity of the humerus, parallel to the long diameter of the arm, had followed the course of the bone and made its exit in the supra-spinous region. The humerus had completely disappeared, nothing remaining of it except the head of the bone; the region of the shoulder was all burst to pieces and the axilla dissected out. In the case of a warrior, who had been struck by a bullet in the middle of the forehead, the wound of entrance was rather small, but the occipital bone was completely swept away, and the cranial cavity almost completely emptied. These destructive effects were said to have been caused by ordinary Lebel ammunition.

Military surgeons state that Mauser bullets, after passing through the soft parts, leave an exit wound like a circular punched-out hole, the edges of which are shreddy and slightly torn. The nearer a bullet strikes a bone at its greatest diameter, the greater is the destruction produced in the bone and the soft parts beyond. Simple wounds through the soft parts, however, heal quickly; and, in such cases, the wounds made by Mauser bullets may be justly called humane.

Surgeon Beck, of the 13th Minnesota Regiment, as the result of his experience in the Philippines, says: "To the small calibre bullets of the insurgents' Mausers, the wounded boys owe their lives and a continuance of their usual friendly association with good arms and legs. In the bony structure of the body the Mauser bores a clean little hole, rarely fracturing a limb; in the skull it takes a centre-shot to kill. Through the soft abdominal tissues the

Mauser bullet is always fatal. Wounds of the intestines, stomach and spleen always kill. Every operation for resection of wounded intestines resulted in death, and the operation is now entirely abandoned."

His conclusions are: "(1) That, owing to the velocity with which the bullet of a modern rifle travels, there is but little fear of pieces of clothing being carried into the wound, and, in consequence, the danger of infection by this means is very considerably reduced. (2) That the wounds produced are, as a rule, much less serious than when bullets of a larger calibre are used. (3) That the velocity of a bullet fired from any one of the new rifles is so great that it does more damage at a distance than at close quarters. (4) That the abdominal wounds effected by the Mauser are, in a high degree fatal."

Another authority, Dr. Davis, who derives his experience from the Greco-Turkish war, says that the destructive power of the small calibre rifle has been overestimated; that its stopping or disabling power is less than that of larger calibre; that wounds in future conflicts will be, as a rule, less severe, and will heal more rapidly, with fewer complications than has been the case in the past; that less radical treatment will be required, and conservatism will be followed by brilliant results.

Dr. Davis explains the so-called "explosive" action of the Mauser, as follows: "The initial force of the bullet being penetrative is, when impeded, transformed into a lateral one—the explosive effect being only another name for lateral action, *i.e.*, outside the track of the bullet. This lateral action is most marked in hard bones, the fragments being carried onward; and in organs containing water (bladder, brain, liver, etc.) the rotation of the bullet on its axis does not materially affect the character of the injury."

Dr. Roger, in his recently published work, "Introduction à l'Étude de la Médecine," writes: "We thus find all kinds of lesions similar to those produced by the older firearms; but, whilst the Chassepot bullets at 1,200 metres caused no serious wounds, at 1,500 metres the new bullets are effective, at 2,000 metres they maintain a speed of 197 metres to the second. . . . Finally, as Demosthen shows, the wounds inflicted by modern rifle bullets are not restricted to perforations; the skull is sometimes burst to pieces; in the bones of the extremities, even when the shot is fired from a distance of 1,500 metres, comminuted fractures, with from

fifteen to twenty fragments, are produced. Around the track of the bullet the muscles are cut up and strewn over with powdered bone substance."

The following excerpt, taken from Dr. Roger's book, shows the models of the different military rifles and their projectiles:

Country.	Model of Rifle.	Calibre.	Weight of Bullet.	Length of Bullet.	Envelope of Bullet.	Speed at 25 Metres.
		MM.	Grs.	MM.		M.
France	1886	8	15	30	Cupro-nickel alloy.	600
Germany	Mauser–Mannlicher 1888.	7.9	14.7	31.6	Steel, plated with cupro-nickel alloy.	620
England	Lee–Metford, 1889.	7.7	14	31.6	Id*	625
Austria	Mannlicher, 1888	6	15.8	31.8	Id	700
Roumania	Mannlicher, 1892	6.5	10.3	31.4	Steel, plated with nickel.	700
Russia	1891	7.62	13.86	30.48	Cupro-nickel alloy.	615
Switzerland	Ruhin-Schmidt, 1889.	7.5	13.7	20	Copper	600

* A Canadian military authority says that the envelope of the Lee-Metford bullet consists of copper 80 parts, nickel 20 parts, and iron 0.5 parts.

There seems to be a general consensus of opinion that simple flesh-wounds inflicted by the modern rifle bullet are small and that they heal rapidly, foreign matter, such as bits of clothing, not being introduced into the wound. There is good evidence to show that some wounds inflicted at short range, 60 metres, are explosive, the whole force of the bullet being expended in overcoming great resistance, *e.g.*, the axis of a long bone, or a bony vault such as the skull. The same bullet, if it did not encounter other resistance than the soft parts, might easily perforate three or four soldiers if they were placed close to each other. This statement appears to be in direct opposition to Dr. Beck's third conclusion, in which he says, "That a bullet fired from any one of the new rifles does more damage at a distance than at close quarters." Yet these statements do not necessarily conflict. For instance, at 2,000 yards, a Mauser bullet may inflict more ragged wounds of entrance and exit, in the soft parts, than at 200 yards; and, similarly, instead of boring a round hole in a long bone, as it might at short range, it may cause a comminuted fracture of a bone at long range. This may be quite true, but it does not refute the statements made by the French surgeon, who made his observations of the destructive character of

Lebel rifle bullets fired at short range, and which encountered hard bones in the axis of their greatest resistance.

The deadly nature of wounds in the abdomen is, if Dr. Beck's statement is confirmed, very unsatisfactory, and it is to be hoped that further investigations may produce a less sombre prognosis.

J. J. C.

VARIATION IN THE TYPE OF SMALLPOX.

During the past two years an eruptive, contagious disease, exhibiting many characteristics of smallpox, has appeared in the United States, and during the month of November, 1899, it attacked many persons in Ontario and Quebec. Nowhere in Ontario has it caused loss of life, except in one case, but it has spread freely from infected centres, and, owing to the severe methods of repression adopted by Boards of Health when dealing with suspected smallpox, it has caused great loss of time to patients, their friends and other exposed persons, as well as a large expenditure of money.

The disease in question has been pronounced to be chicken-pox. If this diagnosis were correct, the incidence of the disease would be unusual, seeing that many of the patients were adults, and chicken-pox is most common in children under four years of age, older children being also liable to it, while in rare instances only does it occur in adults. Cases of chicken-pox have been reported in several centres in Ontario during the past few months, and in December, 1899, Dr. Bryce, Secretary of the Provincial Board of Health, confirmed the statement that the outbreak which had appeared at Tilbury Village, Ontario, was chicken-pox. At the same time, however, and in places not very far from Tilbury, genuine smallpox cases were reported to exist, *e.g.*, in West Middlesex, Essex and Kent counties. In a paper read before the Medical Society of Windsor last November, Dr. Coventry, Medical Health Officer of that town, thus describes some cases that came under his observation :

"(1) Some have but little prodromal fever; some have pains in the back, some do not; some vomit, some do not.

"(2) In some, the eruption without the 'shotty' feeling appeared all together, and disappeared with one crop; in others, there is the 'shotty' feeling with the succession of crops.

"(3) All the secondary eruptions are papular in first stage,

there being seldom any primary rash, and becoming vesicular within two days; some vesicles have aborted at this stage and dried up, while others become semi-purulent, marked at the apex with a dark spot, but without umbilication.

"(4) In no case has there been secondary fever.

"(5) Adults have had a more severe eruption than children, the vesicles in the latter blackening and drying up at the vesicular stage, the crust falling off at the seventh or tenth day from the beginning of the eruption.

"(6) Some have the eruptions on the fauces, and some have not.

"(7) *None of the cases had been vaccinated;* vaccinated persons living in contact with it do not contract the disease, and children vaccinated in time in houses where it is, have escaped it.

"(8) The outbreak has been traced to a man coming from a district where it prevailed epidemically."

We may say, that but one statement in this summary, viz., that under No. 7, need exact surprise. That varioloid presents the well-known features of variola in modified and restricted forms, such as Dr. Coventry describes, has been known for generations. In varioloid, while the primary fever is often as severe as in small-pox, the eruption is less copious, and it passes rapidly through the successive stages, complete maturation being reached in five or six days. Sometimes the eruption aborts to a considerable extent, and it may be arrested at the vesicular, or even the papular, period. The general symptoms are also less severe than in most cases of mild natural smallpox. The secondary fever is slight or wanting, and convalescence is rapid. Flint, however, maintains "that small-pox is modified in a certain proportion of cases spontaneously, that is, irrespective of inoculation or vaccination. Cases presenting the characters of varioloid occurred prior to the practice of inoculation and the discovery of vaccination. They were, however, rare."

Dr. Coventry's experience at Windsor, viz., that patients presenting typical pictures of varioloid had not been vaccinated, would induce the medical reader to think that such cases belong to the category described by Flint, only that instead of being rare they are quite common. All the same, no sufficient reason is offered to show why unvaccinated cases of variola should behave in such an unusual way.

Physicians called to see such cases should scrutinize them closely and look to the diagnosis with great care. The comparative mildness of the disease in the great majority of cases renders

treatment unnecessary; but a close study of the cases is important in order to form a correct estimate of the type of the prevailing epidemic, and inform the public of its true nature. J. J. C.

A HAPPY NEW YEAR.

To all our readers once again we wish a very happy New Year. At this season it seems almost natural to take a retrospective view of things in general, and perhaps the summing up amounts, with the majority of mankind, to nothing more nor less than the quotient figured into a total of "Ye shall no more pass this way." As to the day's work—with reluctance we file away the last twelve issues among our bound volumes, that mark another milestone in our progress as a medical journal. Perhaps we do not love it—this magazine of medicine. It has, in truth, its shortcomings; but, like the American humorist, who, upon being shown by the nurse a plump mass of flesh in the shape of his first-born son, expressed himself thus: "I do not love it, but I respect it for the sake of its father." So in reference to our journal, we cannot say we love it, but we highly revere it for the sake of its father—the physician of the twentieth century.

To please everybody would be impossible; to please many would be a vacillating and deviating task. To tabulate a set of principles and adhere to them, hit or miss, is what this journal has tried to do: not to become an automatic machine, where each collaborator must sing the same song or be mute, but rather an inkstand in common, wherein all may dip their quill and scribble their opinion out, appending their own initials, harmonious upon the larger view of any medical or surgical question, but in the carrying out of the minor details, each man a unit and free to voice his own opinion —something new, perhaps, even in that much-exploited realm of medical journalism, a policy possibly a little removed from "the daily round, the common task," and so far a success. W. A. Y.

EDITORIAL NOTES.

Worthy of Imitation.—It was an exceedingly noble action on the part of Parke, Davis & Co. to arrange to keep the names of all their members on half-pay during their absence in Africa with

the Canadian Contingent. The firm, in addition, presented $100 worth of their antiseptics to the Canadian Contingent on leaving—a gift which will certainly be appreciated.

Toronto Western Hospital.—The new Toronto Western Hospital was opened with great eclat on the 15th of December. This institution has grown so rapidly that it became absolutely necessary to move to larger and more commodious quarters. The old buildings had become so overcrowded that from day to day cases had to be turned away owing to lack of room. The new buildings are situated at 381 Bathurst Street (corner Nassau), and are sur-

TORONTO WESTERN HOSPITAL.—NEW BUILDINGS.

rounded by beautiful grounds. It is an ideal site for an institution of this kind. The board of directors were indeed lucky to be able to secure such suitable accommodation. We feel sure that from this date even greater prosperity will attend "The Western" than in the past.

Our Second Annual Dinner.—On December 27th the members of the staff of this journal held their second annual dinner in the Blue Room of the Temple Café. It was "a family party," the invitations being only extended to those holding intimate connec-

tion with the JOURNAL. A grand concert graphophone caused much amusement, and proved a slight rest between the many witty and wise speeches, which continued till some sleepy one wished the JOURNAL and all its friends the compliments of "the top of the mornin'."

A New Treatment for Varicose Ulcers.—Dr. Lafond-Grellety, of Bourdeaux (*La Presse Medicale*), in treating large, old, varicose ulcers, with indurated edges, and accompanied by considerable edema, has obtained very satisfactory results by employing the following treatment: He begins by removing the edema through subcutaneous capillary drainage, leaving the drain or cannula in position until the flow of serum has stopped for twenty-four hours. The edema having been removed, he stimulates the granulations on the surface of the ulcer with the solid nitrate of silver for two days. Compresses of absorbent cotton steeped in a 10 per cent. warm solution (98⅗ F.) of gelatine are laid over the ulcer and retained with adhesive plaster, the limb being placed in the horizontal position. The dressing is changed three or four times a day, in order to replace the solidified gelatine by a warm and liquid gelatine, which exercises a better effect. Cicatrization of a varicose ulcer, treated in this fashion, takes place in from fifteen to thirty-five days.

The Presence of Tubercle Bacilli in the Milk of Tubercular Cows.—From experimental work done by Robinowitsch and W. Kempner, and which is detailed in *Zeitschrift fur Hygiene und Infections* (Krankheiten, 1899, Vol. XXXI., No. 1, p. 137), we learn that some of the animals tested were in the primary stage of tuberculosis, not having any tubercular disease of the udder, and others had a latent tuberculosis, which was revealed by the tuberculin test. Samples of milk were taken from fifteen cows. Each sample having been centrifugalized, the cream and the sediment were submitted to microscopic examination, and subsequently injected into the peritoneal cavity of a guinea-pig. The results of these intra-peritoneal injections were demonstrative. Of the fifteen specimens ten contained tubercle bacilli, a proportion of 66.6 per cent. The authors conclude that the tuberculin test ought to be made obligatory in the case of dairy cows, and that the milk of cows which have reacted to this test, ought to be considered suspicious.

Suppurative Parotitis in Gonorrhea.—Colombini reports (*Centralblatt fur Bakteriologie*, Vol. XXIV., No. 25, p. 955) a case

remarkable for the number of infectious centres and processes of suppuration, in which he found the gonococcus. This case is also particularly interesting, inasmuch as it is a unique example of gonorrheal parotitis. A man twenty-eight years of age, a mason's assistant, contracted gonorrhea, which was badly treated. Two weeks later a suppurating bubo, which required incision, appeared in the left groin, and also a left epididymitis, which became suppurative. The temperature rose to 103⅘ F.; fever continued for two weeks and was accompanied with marked emaciation and albuminuria. A right suppurative parotitis appeared and also required incision. Bacteriological examination of the specimens showed the presence of the gonococcus in the urethral pus, in the pus taken from the abscess of the groin, in that taken from the epididymitis, and in that taken from the parotitis. Mingled with other microbes, the gonococcus was also found in the man's urine. Blood taken from a vein in his arm at first yielded no result; taken a second time, it grew; the outcome of the third crop, inoculated on the urethra of a young man, caused a clap in twenty-four hours.

Canada Balsam in Cystitis.—Dr. P. A. Mesnard, in *La Presse Medicale*, describes a new formula for preparing Canada Balsam for internal administration. An old-time formula is:

℞ Canada balsam ..... 308 grs.
Calcined magnesia .....q. s.
M. et divide in pilulas 100.
Sig.: Take at first 4, and subsequently 5, pills a day.

This formula he thinks objectionable, as Canada balsam, like similar drugs, when combined directly with magnesia, produces stucco balls, which pass through the digestive tube unchanged. After considerable experiment, made in concert with Dr. H. Hyronimus, he found a method of making these pills by which they become dissolvable and assimilable; and when used in several cases of chronic cystitis of varied origin, their action was decidedly favorable. The formula finally adopted is as follows:

℞ Canada balsam ..... 308 grs.
Calcined magnesia ..... 30.8 grs.
Powdered soap ..... } *āā* q.s.
Powdered benzoin ..... }
M. et divide in pilulas 100.
Sig.: 4 to 6 pills each day.

N.B.—The pills should be made very soft, and not rolled until after a half-hour has elapsed, when they have grown a little firmer. They should be rolled in magnesia, which covers them with a

harder layer. Of course, the ordinary treatment of chronic cystitis (injections, washing of the bladder, etc.) should be employed at the same time.

Medical Gleanings from Roman Egypt.—The *Lancet* for February 25th says that it is probable that no archeological literary discovery of the expiring century will in future be so celebrated as the rescue from the sands of the Egyptian Fayoum of more than ten thousand complete and fragmentary papyri by the explorers acting under the auspices of the "Greco-Roman Branch of the Egyptian Exploration Fund," a society which at its commencement owed much to the late Sir Erasmus Wilson. A selection from some fourteen hundred documents, the greater part of which are at Oxford and the minority at the Ghizeh Museum, has been made by Messrs. Grenfell and Hunt, who have carefully edited about a hundred and fifty of them and published them with a commentary in a volume entitled "The Oxyrhynchus Papyri: Part I., with Eight Facsimile Plates." First in importance is the now famous portion of a "Logia," or collection of "Sayings of our Lord." There are also pieces by Sappho, Thucydides, Plato, and other classical writers. The first papyrus of medical interest is No. 39, which is from the military archives of Oxyrhynchus, and is the certificate for the release from army service of one Tryphon because of defective eyesight. It reads thus: "Copy of release. dated and signed in the twelfth year of Tiberius Claudius Cæsar; Release from service was granted by G. Vergilius Capito, prefect of Upper and Lower Egypt, to Tryphon, son of Dionysius, weaver, suffering from cataract and shortness of sight, of the metropolis of Oxyrhynchus. Examination was made at Alexandria." Another papyrus gives an account of a lawsuit relative to the identity and the custody of an infant who had been placed with a baby farmer. Papyrus No. 51 is the report of a medical officer upon a case of suicide, and is dated A.D. 173. A similar document is to be found in the large collection of Greek papyri in the Berlin Museum. The present one is as follows: "To Claudianus, strategus, from Dionysius, son of Apollodorus, son of Dionysius of Oxyrhynchus, public physician. I was to-day instructed by you through Heraclides, your assistant, to inspect the body of a man who had been found hanged, named Hierax, and to report to you my opinion upon it. I therefore inspected the body in the presence of Heraclides at the house of Epagathus in the Broad Street quarter, and found it hanged by a noose, which fact I accordingly report."

The Physician's Library.

BOOK REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Twenty volumes. Vols. XIII., XIV., XV. and XVI. New York: William Wood & Co. 1898.

These four volumes of "The Twentieth Century Practice" are devoted entirely to infectious diseases, and give the profession one of the most complete works on this department of medicine in print. We know of no system which presents in so complete, and withal so interesting, a manner infectious diseases in their different manifestations, and Vols. XIII., XIV., XV. and XVI. alone make "The Twentieth Century Practice" well worth possessing. Among the contributors to Vol. XIII. are such writers as P. Brouardel, M.D., of Paris; Jules Comby, M.D., of Paris; H. C. Ernst, M.D., of Boston; Ernest Hart, D.C.L., M.R.C.S., London; J. W. Moore, M.D., F.R.C.P.I., Dublin, and Dawson Williams, F.R.C.P., of London. Volume XIII. is divided into several sections—one on ptomaines, toxins and leucomains; another on infection and immunity; a third on water-borne diseases; still another on the duration of the periods of incubation and infectiousness in acute specific diseases; and shorter sections on smallpox, vaccina and mumps.

Under the section on water-borne diseases, written by Ernest Hart and Solomon C. Smith, of London, the etiology, etc., of typhoid fever is considered at some length. In referring to this, the authors go on to say that it would be incorrect to suggest that the etiology of typhoid fever is so simple an affair as to be expressed by the crude assertion that infection is necessarily the direct outcome of the ingestion of water directly polluted with typhoid excreta. It is well known that such a pollution will produce it; but in many cases, especially where the disease appears to be endemic, the relation is much more complex. There is every reason to believe that the microbe of typhoid fever plays a double role, and that, although it is best known as a parasite, it also exists as a saprophytic organism able to maintain its life for long periods quite independently of man. It has even been maintained that some such alternation of its phases of existence is necessary to the development of its infective power, and this hypothesis receives some support from the opinion held by many that fresh typhoid stools are not infectious, and that it is only after a certain period has elapsed, or in other words after the bacilli have had an opportunity of multiplying outside of the body, that their infective properties attain their full virulence. In any case, however, when the typhoid bacillus gains access to the body and becomes implanted in human tissues, it again takes on its parasitic life and sets up that definite train of symptoms, some the result of the absorption of toxic products found in the course of its growth, others the outcome of the active resistance of the tissues, the sum total of which go by the name of typhoid fever. This chapter on typhoid fever is thoroughly interesting and fully up-to-date.

Volume XIV. is devoted to scarlet fever, measles, German measles, chicken-pox, glandular fever, whooping-cough, cholera infantum, cholera nostras, Asiatic cholera, dengue, beri-beri, miliary fever and Malta fever. The chapter on scarlet fever is written by F. Forchheimer, of Cincinnati, Ohio. In discussing the treatment of this disease, the author divides it into prophylaxis, general hygiene and medical treatment. He says that too much stress cannot be laid upon the

prevention of throat troubles. Not only do we, by the measures recommended, prevent throat troubles themselves, but we prevent that which is of much greater importance, secondary infection. Hutinel has made the point that in one hundred cases of scarlatina he has had neither a death nor secondary complications, simply on account of the use of antisepsis as applied to the throat. While this statement may be a little too enthusiastic, certainly our results in scarlatina, when these hygienic methods are applied, are far better than they were in the pre-antiseptic days. As soon as throat trouble begins to develop in the form of spots or a membrane, active measures should be taken. This can be done most effectively by local treatment, which has been applied in a great many different ways—by gargling, douching, local applications in the form of a spray, or direct applications to the parts affected. The author thinks that gargling is not to be relied upon, and that serious objections can be made against douching on account of the unpleasantness when used in young children. The spray, however, can be used under all circumstances, even in the most refractory child. In using the spray, alkaline solutions, hydrogen dioxide or any of the milder non-irritating antiseptics can be used. The best method of all is the direct application, by means of a cotton swab, of the remedies that are to be used, to the part affected. The author thinks that, of those remedies, the one that comes first and foremost is the use of Löffler's iron toluol solution once or twice in twenty-four hours, the swab being held in contact with the diseased parts a sufficient length of time in order to insure the efficacy of the application. The only objections to this remedy are the pain that is produced and not infrequently a certain amount of irritation. Next to this in efficacy comes the application of hydrogen dioxide in the form of a 3 per cent. solution applied not oftener than twice in twenty-four hours. When the membrane spreads beyond the tonsils it becomes necessary to determine by culture the nature of the complication. In case it is due to the Löffler-Klebs bacillus, large doses of antitoxin should be injected as soon as possible. When this bacillus is not found, the serum of Marmorek, or equally good, the streptococcus serum as prepared by Parke, Davis & Co., should be used immediately. It will be found almost astonishing, in some very bad cases, what good results will follow its use.

Volume XV. is full of information, although possibly not of such value to the practitioner as the preceding two, as it takes up such infectious diseases as typhus, plague, glanders, anthrax, foot and mouth disease, actinomycosis, rabies and pyemia. Among the contributors are Frank S. Billings, of Grafton, Mass.; Ismar Boas, of Berlin; Ditmar Finkler, of Bonn; I. McFadden Gaston, of Atlanta; N. G. Keirle, of Baltimore; S. Kitasato, of Tokio, Japan, and others.

Volume XVI. is the last one devoted entirely to infectious diseases, and is the most interesting of all. It devotes its pages to lobar pneumonia, cerebro-spinal meningitis, dysentery, inflammation, erysipelas, simple, continued and relapsing fever, and typhoid fever. The contributors are J. W. Brannan, of New York; L. B. Edwards, of Richmond, Va.; O. G. T. Kiliani, of New York; A. Netter, of Paris; H. A. A. Nicholls, of Dominica, W.I.; L. Popoff, of St. Petersburg; A. H. Smith, of New York, and several others.

Dr. Andrew H. Smith, of New York, devotes quite a lengthy chapter to lobar pneumonia. He goes into the consideration of this disease in a most complete manner, and yet has written it in such a way as not to make it at all tiresome. In the treatment of pneumonia, Dr. Smith draws attention to the great value of mercury. At the present time we can scarcely accord to mercury the "antiphlogistic" property with which it was formerly credited, but from its sedative action when given in the sedative dose, we can understand that, when an agent so inimical to germ growth is taken into the blood and effused into the air cells along with the fibrin that is to act as a culture medium, it must have an effect to retard at least the activity of germ formation in that medium. Laboratory experiments show that the pneumococcus is peculiarly sensitive to mercury; and with so large a quantity of calomel diffused through the alimentary canal it is easy to conceive that enough mercury, probably in the form of the bichloride, should be absorbed and exuded with the fibrin to sensibly effect

the pabulum upon which the microbe feeds. Pieragnoli strongly recommended the employment of calomel in croupous pneumonia, his method consisting in the daily administration of calomel combined with opium, and in the avoidance of expectorants in the first few days of the attack. Smarkovsky, of Moscow, claims that calomel given in doses of 5 or 6 cgm. (gr. $\frac{3}{4}$—1) every hour until a purgative effect is produced, is capable of jugulating croupous pneumonia and causing its abortion. We have not had the satisfaction of reading any more complete article on pneumonia, its etiology, symptomatology and treatment than that by Dr. Smith in Vol. XVI. of "The Twentieth Century Practice."

W. A. Y.

Treatise on Orthopedic Surgery. By Edward H. Bradford, M.D., and Robert W. Lovett, M.D. Second revised edition. New York: William Wood & Co., 1899.

The first edition of Bradford's and Lovett's "Orthopedic Surgery" secured for itself a place in the confidence of the profession, and marked its authors as men holding a front rank among orthopedic surgeons. It is not unmerited praise to say that the second is a real revision, bringing it up to date and eliminating some of the defects almost inseparable from a first edition.

To say that it is brought up to date is to say much, when, in order to do this, it was necessary to search the literature of the advances made in this work since 1890. In the last decade some of the most important advances made in surgery are to be placed to the credit of the orthopedist. Notably are congenital dislocations brought well within the province of helpful, hopeful, practical therapeutics. Congenital dislocation of the hip was not successfully treated till within a few years past. In all lines of orthopedic work, the authors have traversed most thoroughly not only American, but English and European, literature, and have made this edition a veritable encyclopedia.

Lack of perspicuity was one of the faults marking the edition of 1890, and, although the present one is a marked improvement in this respect, yet it must be said that not a little could be left out with advantage. The practical demands of to-day require that a specialist shall, from his superior knowledge of the subject, somewhat dogmatically lay down his facts and prescribe his treatment, and from his more intimate experience decide for his readers the proper course to pursue, instead of laying down numerous directions and leaving the searcher for definite information to wade through many suggestions, and finally being responsible for choosing the course to be pursued. Perspicuity can scarcely be said to be one of the elements of strength in the book.

In pathology, the authors have done well in making free use of the work done by Nicholls and others in connection with diseases of bone. The new illustrations and altered and additional text make the book most valuable here. Forcible correction of deformity arising from Pott's disease, a recent and important advance, receives fair consideration.

Original and valuable work done by the authors in the matter of the etiology of roto-lateral curvature of the spine is found here. Along with it, however, is a most bewildering collection of what has been written on this subject, some of which is valuable and to the point, much of which is useless, except as history.

To the writer, it seems scarcely orthodox teaching that the desired result after excision of the elbow, even for disease, is ankylosis. Few would take exception to this as applied to excision of the knee; but where function is so different, and movement so important, the aim should be to secure motion, not ankylosis.

The chapter on club-foot is a most valuable one. The cream of suggestions for treatment has been successfully gathered. Where much is so good, one hesitates to refer to minor defects. The fourth paragraph of the summary (p. 423) lays down the rule that osteotomy or wedge-shaped resection of the astragalus is necessary in resistant cases with bony deformity. The writer is convinced that less radical measures will succeed in nearly all, if not in all

cases. Numerous cases of a severe type in his own experience, and in that of others, shows that even in strongly resistant cases up to forty years of age no bone operation is necessary.

Cutting of the plantar fascia (p. 377) may be more easily, efficiently and safely done by entering the tenotome much nearer the tubercle of the os calcis, and behind the arteries and nerves.

In their description of the fixation dressing applied after reduction of the femoral head in congenital dislocation, an error is made which has been made by several writers. If the limb be secured in a position of *inversion*, as here directed, it must result in turning the head of the femur *away from the acetabulum*. Eversion, or outward rotation, is the correct position to bring into coaptation with the acetabulum a head which had been twisted backward in its relation to the shaft, by lying for years upon the backward sloping surface of the ilium. This point is correctly stated by Lorenz, Vol. I., p. 261, of "Transactions American Orthopedic Association."

It would be a pleasure to say that the publishers had done their work as well as the authors had done theirs. In this respect, however, the book lover is disappointed. Their work, especially in illustration, is not up to the standard set by the best houses in recent years.

Taken all in all, this edition marks a real advance in the literature of orthopedic surgery. B. E. M.

Operative Surgery. By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College, etc. Vol. I. : General Principles, Anesthetics, Antiseptics, Control of Hemorrhage, Treatment of Operation Wounds, Ligature of Arteries, Operations on Veins, Capillaries, Nervous System, Tendons, Fascial Muscles, Bursæ, and Bones, Amputations, Deformities and Plastic Surgery. With 749 illustrations, fifty of which are colored. D. Appleton & Co., New York Publishers ; George N. Morang & Co., Canadian Agents. Third edition.

With the plethora of newer books now on the market, one dreads the appearance of the ever-persuasive book agent as he enters one's door with something "every doctor must buy." After wasting many precious minutes upon these "knights of the grip," one is at last refreshed by a peep into Bryant's "Operative Surgery."

By reading between the lines in "General Considerations" one will readily learn that the author tries to impress upon the surgeon that he is doing his operation upon a patient as well as upon some diseased condition. He lays great stress, too, upon the necessity for punctuality at operations. Certainly the lack of punctuality on the part of some surgeons cannot be too strongly condemned.

The section on anesthesia is somewhat antiquated. He describes the stage of excitability in ether anesthesia, but either forgets, or is not aware, that this may be almost or entirely overcome by the previous administration of nitrous oxide gas. One is prone, too, to cross swords with the writer when he lays stress upon the usefulness of the "conjunctival reflex" as a guide in the administration of an anesthetic, for why should an anesthetist be allowed to "jab" his finger into a patient's eye indiscriminately, simply because the victim is not in a position to defend himself ?

On the subject of the ligature of arteries, in which there is a most exhaustive description, the operator's knowledge of anatomy is greatly refreshed by a series of useful plates, as well as a *résumé* of the relations of many of the principal vessels.

There is, too, a description of methods of opening veins, and of how transfusion may be done, which will be useful reading to many.

Then in beginning the description of operations upon special regions, and for special purposes, there is a half-tone plate descriptive of the various instruments required, a study of which will be useful to one undertaking an operation for the first time.

Volume I. concludes with an exhaustive chapter on plastic operations, including those for skin-grafting, cicatricial contractions, facial deformities, hare-lip and cleft palate.

Throughout, the practitioner and student will find the work a most useful reference and guide. The book-making is excellent, and D. Appleton & Co. may justly be proud of the plate-making. F. N. G. S.

Surgery. A Treatise for Students and Practitioners. By Thos. Pickering Pick, consulting surgeon to St. George's Hospital; senior surgeon to the Victoria Hospital for Children; H. M. Inspector of Anatomy in England and Wales. London, New York, Bombay: Longmans, Green & Co., Publishers.

This is a book designed more particularly for the use of students, but no doubt the practitioner will find it a valuable addition to his library.

Mr. Pick, who, for many years, lectured to the students at St. George's Hospital, is eminently well qualified to produce a work that will be suitable to the needs of a student. As a consulting surgeon, too, his life's practice, as contained in the pages before us, should be a great benefit to the young practitioner, when he requires to fall back on the experience of someone of riper years. With the growth of surgical knowledge during the last decade it seems almost impossible for one to confine in a single volume a text-book of surgery, but by means of conciseness of expression and a certain dogmatic style, so essential in an impressive teacher, the author has succeeded in a remarkable manner. This is especially refreshing to one who, for some time past, has been wading through a number of works by American authors, in which the *padding* is the one great characteristic.

Like so many text-books, however, too much is left to the imagination of the student, and too much knowledge on the part of the student is taken for granted. For example, no student could take up the work and get an intelligent understanding of the process of *ulceration* by opening the book and reading that section alone. It seems to me that a large work could be written dealing with practical points not mentioned in books. The chapters on syphilis and on tuberculosis, while concise, are clear and instructive, and will give one a good working basis for study. Chapter XIII., on injuries and diseases of the abdomen, is excellent, and in a limited space gives the reader much valuable information in comparatively few pages. Did space permit, one might go more fully into the details of the work; suffice it to say, however, that the illustrations are good and assist materially in an understanding of the text. The publishers are to be congratulated on the book-making. F. N. G. S.

The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. A Text-Book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University; Professor of Criminal Anthropology in the Kent College of Law, etc., etc. Illustrated with 235 engravings. Philadelphia, New York and Chicago: The F. A. Davis Co., Publishers. 1899.

So enthusiastic a reception have Dr. Lydston's contributions to the subject of the surgical diseases of the genito-urinary tract received from time to time, that it was a wise move on his part to put his extensive knowledge, as a result of close study given to this department of surgery into the form of a book and thus enable the profession as a whole to benefit thereby. He has divided his book into ten parts, consisting of about forty-five chapters, and considers (1) the general principles of genito-urinary, sexual and venereal pathology and therapeutics; (2) venereal diseases of the penis; (3) diseases of the urethra and gonorrhea; (4) chancroid and bubo and their complications; (5) syphilis; (6) diseases affecting sexual physiology; (7) diseases of the prostate and seminal vesicles; (8) diseases of the urinary bladder; (9) surgical affections of the kidney and ureter, and (10) diseases of the testis and spermatic chord. The chapter

on syphilis is complete and thoroughly up-to-date. In the treatment of this disease he considers the pros and cons of the use of mercury, the action of mercury in syphilis, the effects of mercury upon the blood, the selection of mercurials, the untoward effects of mercury, the effect of the iodides, the untoward effects of iodine, new remedies for syphilis, the local treatment of syphilitic lesions, and the treatment of early syphilitic neuroses. The book is an exceptionally concise, and at the same time complete, consideration of the subject, and ought to find a ready sale among the medical profession of this country. We think, however, that had a better quality of paper been used the illustrations would have come up better and been more distinct.

Sajous' Annual and Analytical Cyclopedia of Practical Medicine. Volume IV. Infants, Diarrheal Diseases of—Mercury. The F. A. Davis Co.

We regret that the fourth volume was not received until the month of November, 1899, as if it had arrived during the summer it would have been a real pleasure to have drawn the attention of the Canadian profession to the admirable article on the diarrheal diseases of infancy, by Dr. A. D. Blackader, of McGill University, Montreal. We do not remember having read in the recent literature of pediatrics an article which contains sounder information. In regard to the treatment of chronic diarrhea of infants we quite agree with Dr. Blackader's statement that nutrition may also in some instances be assisted by the inunction, over the abdomen or body generally, of cod-liver oil or cocoa butter, only we prefer olive oil in such cases.

The article on Insanity, by the late Dr. Rohé, is a useful general presentation of a difficult subject, and will be found interesting to practitioners. To those who knew the author only as a writer on hygiene, it will be a revelation of his many-sided ability.

Malarial fevers are very fully discussed in a well-written article by Drs. Wilson and Ashton. The latest literature on malaria is presented in a well-digested form. The colored plates representing the parasites of malaria are well done. The primal origin of the parasites is traced as far as medical research has gone.

Diseases of the liver and gall-bladder, save cirrhosis, are amply described by Professor McPhedran, of Toronto University. Needless to say the personal experience and full reading of the accomplished author make this article most instructive.

An important article on intubation by Professor Waxham, of Chicago, one on locomotor ataxia by Professor Pritchard, of New York, one on meningitis by Dr. C. M. Hay, of Philadelphia, and a creditable article on leprosy by Dr. Sajous, are the principal remaining attractions of this volume. J. J. C.

The Old Concession Road. By THOMAS LAIDLAW, Guelph, 1899. Illustrated, 35c.

I remember once finding a copy of "Cavendish on Whist" in the theological library of an exemplary clergyman. There is always a certain momentary sense of refreshment in such surprises; and not more so in the case mentioned than when I recently came across a copy of "The Old Concession Road" in a package of medical books. No apology is necessary for its mention in the pages of any Canadian publication; for it is a labor of love, and from the pen of one of the most lovable and noble-hearted gentlemen of the past generation. The dainty little volume consists of a number of very distinct etchings in prose and verse descriptive of that simple pioneer life that has passed away,

"Sixty years have a dimming effect," the author remarks. "Even the Shorter Catechism has in many of its lines faded, though its starting-point, 'What is the chief end of man?' is, we suppose, written in indelible ink." In these essays, which remind one by their kindly humor of Charles Lamb at his best, Mr. Laidlaw describes "The Days of the Little Shanty," "The Sugar Camp," "The Sabbath in the Early Days" (I wish some of the votaries of the Lord's Day Alliance would read this, and they might get some idea of what keeping the Sabbath really means), "The Raising Bee," "Old By-Roads,"

and "The Old Log School House," besides other sketches which will evoke a responsive note. The little book is unhesitatingly commended as a precious fragment of pure literature, lost—more than lost, like the historical needle, in a haystack of pretentious mediocrity, plagiary, bosh and twaddle, with which litter the literary market is at present flooded. The prevalence and general acceptability of clap-trap speaks badly for the much-vaunted taste of the Canadian public. But if that public has not sufficient discrimination to value "The Old Concession Road," I give it up. E. H. S.

Saunders' Question Compends, No. 3. Essentials of Anatomy, including the Anatomy of the Viscera, arranged in the form of questions and answers Prepared especially for students of medicine by CHAS. B. NANCREDE, M.D., Professor of Surgery and Clinical Surgery in the University of Michigan; Emeritus Professor of General and Orthopedic Surgery, Philadelphia Policlinic; Senior Vice-President of the American Surgical Association, etc., etc. Sixth edition, thoroughly revised by FRED. J. BROCKWAY, M.D., Assistant Demonstrator of Anatomy, Columbia University, New York. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899. Price, $1.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

Saunders' Question Compends have taken but a short time to spring into favor, more especially, of course, among students of medicine. A great many are very much opposed to a student resorting at any stage of his work to the use of a question compend, as it is claimed that such leads to a system of cramming, which can only prove deleterious to the man and result in his gaining but a very cursory knowledge of his subject. That may be the case to some extent, but that during the few weeks preceding examination such a book may be of great assistance to the student cannot be doubted. "Question Compend No. 3," on essentials of anatomy, proves no exception to the rule, the sixth edition having been enlarged and added to in such a manner as to increase its usefulness in many respects.

Clinical Lectures on Neurasthenia. By THOS. D. SAVILL, M.D., Physician to the West End Hospital for Diseases of the Nervous System, London; Examiner in Clinical Medicine in the University of Glasgow, formerly Medical Superintendent of the Paddington Infirmary, Assistant Physician to the West London Hospital, etc., etc. New York: Wm. Wood & Co. 1899.

It was a wise move on the part of Dr. Savill to put his lectures, as delivered by him at the Paddington Infirmary and the Welbeck Street Hospital for Diseases of the Nervous System, into the form of a book, so as the more readily to give his friends far and near the opportunity of perusing what is the result of much study and original work on his part, even though the author has had exceptional opportunities for study in this specialty in the metropolitan workhouses and infirmaries of Old London. There is little doubt that the average medical man has too sparse a knowledge of nervous diseases, and more especially their prognosis, and is too apt to ever question the possibility of recovery in cases of the kind. It is strange that text-books on nervous diseases very frequently, indeed, omit any reference of any moment to neurasthenia. This will now be overcome by Dr. Savill having placed his book at the disposal of his professional brethren, a step which is sure to meet with approbation from all quarters.

Notes on the Modern Treatment of Fractures. By JOHN B. ROBERTS, A.M., M.D., Professor of Surgery in the Philadelphia Policlinic, Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. Thirty-nine illustrations. New York: D. Appleton & Co. Canadian Agents: The Geo. Morang Co., Limited, Toronto. 1899.

We think that the title alone of this book will make it sell, as there is no subject which will so appeal at once to the practitioner as the modern treatment of fractures. There are few duties to be performed by the medical man which

requires the exercise of so much judgment and common-sense as the scientific setting of a fractured limb. The book consists of nineteen chapters, and the author takes up such subjects as (1) the exploratory incision in the treatment of closed fractures and dislocations, (2) subcutaneous nailing in fractures with unusual tendency to displacement, (3) the prevention of deformity in fractures of the extremities, (4) subcutaneous tenotomy as an aid in the reduction of fractures, (5) false doctrine in the treatment of fractures of the extremities, etc., etc. Dr. Roberts' book will be found very useful in setting forth in an exceedingly lucid and succinct manner the latest views on this subject.

Saunders' Question Compend, No. 4. Essentials of Medical Chemistry, Organic and Inorganic. Containing also questions on medical physics, chemical philosophy, analytical processes, toxicology, etc., prepared especially for students of medicine, by LAWRENCE WOLFF, M.D., Demonstrator of Chemistry Jefferson Medical College, etc. Fifth edition, thoroughly revised by SMITH ELY JELLIFFE, M.D., Ph.D., Professor of Pharmacognosy College of Pharmacy of City of New York, etc. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899. Canadian agents, J. A. Carveth & Co., Toronto.

Chemistry is always a complex study for some students of medicine, and is often made more so for the beginner by too advanced or insufficiently lucid text-books. That "Saunders' Question Compend of Chemistry" fulfils the popular want is evinced by the fact that it is in its fifth edition. The question and answer method adopted meets with the approval of the majority of students, and is an excellent means of retaining the attention as well as of clearly discussing a subject, and the questions and answers have in this compend been so arranged as to conform to the principal text-books on the subject, such as Fownes, Atfield, Richter, Barker, Witthaus, as well as Holland, on the urine. It is invaluable as an introductory course to chemistry. E. H. A.

La Tuberculose Est Curable. Moyens de la reconnaître et de la guérir. Instructions pratiques à l'usage des familles par le Docteur Elisée Ribard, membre du conseil d'Hygiène du XVIe arrondissement, attaché au service des Tuberculeux à l'Hôpital Boucicaut, avec préface de Docteur Maurice Letulle, Professeur agrégé, Médecin en chef de l'Hôpital Boucicaut. (1 vol. in-8 couronne de 170 pages, avec 14 figures dont une en couleurs et planches hors texte-broché. 2 frs. Georges Carre et C. Naud, Editeurs, 3 Rue Racine, Paris.)

A useful book for popular consumption, containing, *inter alia*, instructions to parents as to the recognition of the physical signs of the tubercular diathesis in their children. After giving proofs of its contagious nature, the author shows how the invasion of tuberculosis may be prevented. Instructions in the matter of suitable diet, exercise, bathing, etc., are also given. A number of interesting and instructive plates adorn the work, which is certainly deserving of professional and popular recognition.

The Medical Annual, Synoptical Index to Remedies and Diseases for the twelve years, 1887 to 1898. Bristol: John Wright & Co., Stone Bridge. New York: E. B. Treat & Co. Toronto: J. A. Carveth & Co.

To those who have been fortunate enough to secure for the past twelve years copies of "The Medical Annual," this Synoptical Index will be invaluable. Very often, indeed, the busy physician wishes to refer to all the information procurable upon the treatment, etc., of a certain disease, which, without an index of this kind, would prove rather troublesome and would mean a good deal of labor when consecutive volumes have to be consulted. With this book, however, all one has to do is to turn to the title in the index and there find at a glance the volumes and the pages of the same where reference is made to that particular subject. Not only that, but there is given under each heading, which are arranged alphabetically, "a synopsis of the suggestions respecting treatment which have year by year been made by the specialists who write the original articles, or which have appeared in the medical press." This work should be in the hands of every subscriber to "The Medical Annual."

Christmas in French Canada. By Louis Frechette. George N. Morang & Co., Limited, Toronto.

It was a happy thought that brought the old saying, "A book is often chosen by its cover," to the mind of the publishers of this book at this busy Christmas time. A glance at the ornate green and gold binding, a look at the title, "Christmas in French Canada," a peep inside at the beautiful illustrations, clear typography and fine paper—a credit to any Canada publishing firm—and the suitability of this volume as a Christmas gift is assured to the purchaser. But the greater pleasure is surely in store for the recipient of this gift book in reading the short stories of life among the habitants. Those who have read the inimitable stories of Gilbert Parker, and the queer fascinating verse of Dr. Drummond, may think that the whole story of quaint French Canada has been told; but Louis Frechette thinks otherwise and tells another story, and he tells it wonderfully well. W. A. Y.

Essentials of Physical Diagnosis of the Thorax. By Arthur M. Corwin, A.M., M.D., Instructor of Physical Diagnosis in Rush Medical College; Attending Physician to the Central Free Dispensary, Department of Rhinology, Laryngology and Diseases of the Chest. Third edition, revised and enlarged. Philadelphia: W. B. Saunders, 925 Walnut Street. 1899. Price, $1.25 net. Canadian Agents: J. A. Carveth & Co., Toronto.

This small book ought to meet with a comprehensive sale. It is gotten up after the style of a compend, although not in the form of questions and answers. It is a guide to physical diagnosis, and will be found a most useful manual not only in the hands of a student, but also in those of the active practitioner, who frequently is none the worse for replenishing his store of knowledge which may have become a little rusty.

Mental Diseases. By Daniel Clark, M.D. Second edition. William Briggs, 1899.

We take great pleasure in welcoming the second edition of Dr. Clark's well-known volume on "Mental Diseases." So short a time having elapsed since the appearance of the first edition no material changes have been called for in the text of the second, though two most timely chapters, if we mistake not, have been added, which treat of "Legal Points in Relation to Insanity and Crime and Responsibility."

The personality of the author is almost as familiar to the legal as to his own profession, and in the long list of celebrated trials, covering some years, he has figured prominently in the criminal courts, great weight having always been given to his evideuce.

MAGAZINES RECEIVED.

"Mr. Dooley's" neighbor, "Molly Donahue," makes her début in the Christmas *Ladies' Home Journal*. She is ambitious to reign as social queen of Archey Road, and is quite as interesting and witty as "Mr. Dooley," the philosopher of her author's creation. Rev. Cyrus T. Brady draws on his experiences as missionary to write of "What Christmas Means in the Far West," giving pictures of rare pathos and of irresistible humor. The letters that passed between Gail Hamilton and Whittier are published for the first time. They give some delightful glimpses of the social side of "the Quaker Poet." Ian Maclaren writes on "Shall the Old Clergyman be Shot?" and Albert W. Smith (the American Lewis Carroll) contributes more of his wonderfully funny nonsense verses. Dan Beard interests the boys with a Christmas novelty, and an exquisite carol by George W. Cable is timely for Christmas rendering. There are two notable page pictorial features, "The Nativity," from the brush of W. L. Taylor, and "Coming home for Christmas," by A. B. Frost. The holidays are considered in all their phases, and the wants of the home and home-makers are anticipated. By The Curtis Publishing Company, Philadelphia. One dollar a year: ten cents a copy.

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF AUGUST AND SEPTEMBER, 1899.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

AUGUST, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,225,326	730	2,088	11.4	8	0.04	25	0.1	5	0.03	16	0.09	55	0.3	172	0.9
98%	94%														

SEPTEMBER, 1899.

2,265,308	738	1,967	10.3	10	0.05	21	0.1	..	..	8	0.04	55	0.3	190	1.0
99.2%	95%														

Population of Province 2,283,182

Registration Divisions of Province..... 777

Selected Articles.

THE ETIOLOGY AND TREATMENT OF NEURASTHENIA. AN ANALYSIS OF THREE HUNDRED AND THIRTY-THREE CASES.

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NEURASTHENIA, or nervous exhaustion, is the name given to a complex of symptoms constituted principally by head pains and paresthesia, insomnia, a peculiar mental state made up of depression, fear, anxiety, anticipation, and distrust; myasthenia, rhachialgia and paresthesia, disordered digestion and vasomotor disturbances, dependent upon disorder of the nervous organization, without recognizable change. In brief, neurasthenia is a neurosis without organic basis. Many theories have been propounded to explain the occurrence of the phenomena of the disease, but none of them is entirely satisfactory. The most universally accepted one seems to be that the manifestations of neurasthenia are expressions of persistent enfeeblement of neural energy. This enfeeblement is dependent upon nutritional change in the entire neuron, or in that part of it whose function is to convert the forces of reconstruction into neural energy and store it up. That an individual part of the neuron is thus concerned has not yet been satisfactorily proven, although it seems highly probable. To discuss this theory satisfactorily, it would be necessary to consider the origin of nerve force. Such a discussion would carry us into a recital of speculations and facts that are beyond our present purpose.

Etiology.—A satisfactory knowledge of the causation of neurasthenia can be obtained from careful study of the cases of this disease that come under observation. We have therefore taken all the cases that have been encountered in the private and dispensary practice of one of us in two years, and subjected them to careful study, with the view to determining the predisposing and exciting causes of neurasthenia. The statistics are based on three hundred and thirty-three cases. Although about four hundred cases were to hand, it seemed advisable to take this number, because of the

ease with which the percentage might be contrasted with one thousand cases.

Number of cases, 333.

Sex: Males, 183 (55 per cent.); married, 96 (29 per cent.); single, 87 (26 per cent.). Females, 150 (45 per cent.); married, 102 (31 per cent.); single, 48 (14 per cent.).

Age: Oldest, 67; youngest, 6; average, 33.3; most frequent decade, third.

Frequency according to decades: 10–20 years, 6.6 per cent.; 20–30 years, 39.6 per cent.; 30–40 years, 27 per cent.; 40–50 years, 16.2 per cent.; 50–60 years, 8.4 per cent.; 60–70 years, 2.1 per cent.

Occupation: Housewives, 94 (28 per cent.); tailors, 37 (11 per cent.); clerks, 26 (8 per cent.); indoor occupation, 264 (79 per cent.).

Nationality: United States, 145 (43.5 per cent.); Russia, 69 (20.7 per cent.); Germany, 34 (10.2 per cent.); Ireland, 34 (10.2 per cent.); Austria, 15 (4.5 per cent.); England, 8 (2.4 per cent.); France, 2 (0.6 per cent.); variable, 25 per cent.

Attributed causes: Overwork, 27; masturbation, 26; worry, 18; fright, 10; childbirth, 12; sorrow, 11; traumatism, 8; previous disease, 7; alcohol, 4.

An examination of the above statistics shows that the disease is more frequent in men than in women, although the preponderance of males is not so great as that given by almost every other writer. It occurs more frequently in the married than in the single, married women being considerably in excess of married men. This may be taken to mean that the entailments of marriage—anxiety concerning the material welfare of mate and offspring, incompatibility of partners, dread and depression attending sickness and death, the assumption of marital and maternal obligations, etc.—are contributory to the occurrence of this neurosis.

Consideration of the ages of the patients shows that infancy and senility are practically exempt. The youngest patient was six years old; the oldest, sixty-seven. The average age was 33.3. The most noteworthy feature is the occurrence of the disease during the years of fullest maturity, from twenty to forty. The epochal periods of puberty and the menopause do not seem to be particularly associated, and this is especially true of the former, with the occurrence of neurasthenia. The statistical information on this point goes to strengthen the belief that we have had for some time.

That the occurrence of neurasthenia has a very important relationship to occupation is shown by the fact that about 80 per cent. of the cases were in persons who worked indoors. This is a remarkable circumstance, considering the fact that the material of the clinic, from which the majority of these cases came, is not predominantly made up of those who work indoors.

Nearly one-half of all the patients gave their nationality as American. This number, of course, includes many who should be classified as German-, Irish-, and Russian-Americans. The frequency with which the disease occurs in Jews is attested by the

fact that, although the clientèle is not conspicuously foreign, more than 20 per cent. of the entire number of cases occurred in Russian, Polish, and Austrian Jews. Indeed, it is highly probable that upward of 40 per cent. of the entire number was of this race. The proportion of Germans and Irish is about equal. The Latin races are not well represented, but this is due to the fact that we see very few of these people in the clinic.

Heredity would seem to play an important rôle in the occurrence of neurasthenia, for upward of 50 per cent. of the cases gave the history of the occurrence of nervous disease or diathesis in the immediate ancestral or collateral family. No distinct frequent relationship between the occurrence of neurasthenia and what is known as the arthritic or rheumatic diathesis could be made out. Special reference is made to this point, because the modern French writers lay great stress upon the rôle played by the neuro-arthritic diathesis in the causation of neurasthenia.

Although the patients were all interrogated as to the attributed or exciting causes of their symptoms, specification of such causes could be got only in one hundred and twenty-three cases. The remainder averred that they were quite ignorant of the factors that could be held responsible for their sickness. Of these one hundred and twenty-three cases, overwork and masturbation are apparently responsible for the same number, while mental factors, particularly emotional, such as worry, fright, and sorrow, were posited as the cause in about one-third of all the cases; physical injury and acute disease were believed to be the exciting agencies in a number of cases. Perhaps the most remarkable feature of the statistics bearing on the matter of the exciting causes of neurasthenia is that alcohol and tobacco were not admitted or noted to be causative of the disease except in very few instances. This is in fullest accord with previous personal experience and belief based thereon. Some writers have claimed that excessive indulgence in alcohol, tobacco, tea, coffee, narcotics, and other intoxicants plays a leading rôle in the causation of neurasthenia. With full appreciation of the perniciousness of these substances upon the nervous organization, and recognition of their great potentiality for mischief to this and other systems of the body, we repeat that they manifest their peccant activity upon the economy in other ways than in the causation of neurasthenia.

The effect of overwork and of masturbation (under which are included for convenience' sake other irregular forms of sexual indulgence) is generally recognized as being very important. Our statistics corroborate this view. In estimating the relationship of overwork to the occurrence of neurasthenia, it must not, however, be forgotten that in many cases it is not alone the physical and mental work which has to be reckoned with, but their mental, moral, and emotional entailments—which, indeed, are oftentimes more responsible for the occurrence of neurasthenia than the work itself.

Of the various causes that have been enumerated, some are all-important in one case, some in another. They are not by any means of equal neurasthenia-causing capacity, and no one can say beforehand whether one of the above-mentioned factors, or all of them, will cause neurasthenia in a given individual. It depends entirely upon the individual and upon his resistance capacity, which in every one is subject to unexplainable variations. Certain individuals are so vulnerable that the equilibrium of their nervous systems is quickly upset by the occurrence of any of these causes; while others have a nervous organization so stable and so susceptible to the aid of reconstructives, that they resist successfully one and all of them during an entire lifetime. Therefore, we say that the etiology of neurasthenia depends more upon the individual than upon anything else. Thus it is that heredity plays such an important rôle in the occurrence of neurasthenia. If one is born with a nervous system that is deficient in the capacity to produce neural energy or, what is the same thing, to maintain a proper equilibrium between production and expenditure of such energy, such a person is far more liable to develop neurasthenia as the apparent result of any of the exciting causes that we have mentioned, than is another person whose inheritance is a stable nervous organization.

It is not our purpose to speak of the symptoms of neurasthenia, except to say that the following summaries show the relative frequency in percentages of symptoms that are so constant in neurasthenia that they may be called stigmata.

1. Physical symptoms: Static depression, 22.2 per cent.; variable depression, 19.5 per cent.; lacking mental concentration, 13.8 per cent.; mental confusion, 10.8 per cent.; undefinable fear, 8.4 per cent.; irritable, 7.5 per cent.

2. Headache: A leading symptom in 55.8 per cent. (occipital, 10.8 per cent.; frontal, 8.1 per cent.; vertical, 7.8 per cent.; diffuse, 26.7 per cent.).

3. Sensory symptoms: General pains, 30.3 per cent.; vertigo, 14.1 per cent.; pains in the back, 12.3 per cent.; acroparesthesia, 12 per cent.; paresthesia, 11.1 per cent.; epigastric pains, 5.7 per cent.

4. Sleep: Insomnia, 70 per cent.; undisturbed, 30 per cent. The classification includes two forms; First, great lassitude and profound mental torpor after eating followed by restlessness and sleeplessness after one or two hours' sleep; and second, wakefulness and other phenomena of disturbed sleep without introductory somnolency.

5. Motor symptoms: Myasthenia, 37.2 per cent.; twitchings, 2.7 per cent.; tremor (as a complaint), 3.3 per cent.

6. Vascular symptoms: Palpitation, 22.8 per cent.; hot flashes, 9.6 per cent.; pseudo-angina, 1.5 per cent.; epistaxis, 0.9 per cent.; polyuria, 4 per cent.

7. Digestive symptoms: Stomachic indigestion, 18.3 per cent.; intestinal indigestion, 13.3 per cent.; poor appetite, 22.2 per cent.;

good appetite, 26.7 per cent.; variable appetite, 21 per cent.; appetite not noted, 30.1 per cent.; constipation, 27.3 per cent.; stools regular or loose, 28.8 per cent.; stools not noted, 30.1 per cent.; coated tongue (noted), 6.6 per cent.

8. Sexual symptoms: Nocturnal emissions, 19.1 per cent.; impotence, 3 per cent.; loss of "vital" fluid on urination and at stool, 5 per cent.; premature ejaculation, 1.2 per cent.; persistent masturbators, 1 5 per cent.; extreme prostration after coition, 10.2 per cent.

9. Initial symptoms: Headache, 27 per cent. (vertical, 3.6 per cent.; frontal, 3.2 per cent.; occipital, 6.6 per cent.; diffuse, 12.6 per cent.). General pains, 8.7 per cent.; myasthenia, 7.5 per cent.; epigastric distress, 7.5 per cent.; insomnia, 5.1 per cent.; melancholia, 3.3 per cent.; vertigo, 4.2 per cent.; palpitation, 1.8 per cent.; pains in the back, 1.8 per cent.; acroparesthesia, 1.5 per cent.; unclassified, 26.4 per cent.

10. Physical signs: Reflexes—knee jerk exaggerated, 22.2 per cent.; knee jerk diminished, 3.3 per cent.; knee jerk normal, 74.4 per cent.; absence of the pharyngeal, 8.7 per cent. Tremor—of fingers, 30 per cent.; of eyelids, 8.4 per cent.; of lips, 6 per cent.; of tongue, 1.8 per cent. Weight—loss of flesh in 30 per cent. of the cases.

Stigmata of degeneracy noted in 14.4 per cent.

The Treatment of Neurasthenia.—In discussing the etiology of neurasthenia, we reached the conclusion that the individual who developed the symptom complex was, after all, the most important element. In speaking of the treatment, we shall say that individualization is more necessary to insure success than in almost any other disease. Although there are certain agencies of reconstruction—such as diet, hydriatics, massage, rest and exercise, environmental and climatic change, etc.—that are beneficial in every case, their application, at least their most successful application, is scarcely ever the same in two cases; so that which is said concerning treatment must be taken to signify that it is susceptible to variation in its applicability to each case.

Prophylactic Treatment.—Considering that the occurrence of neurasthenia has been shown to stand in close and definite relationship to certain previously enumerated predisposing and exciting conditions, it is readily apparent that prophylactic treatment is an important consideration. We are not of those who believe that neurasthenia is a disease of the epoch, or that its occurrence is of modern times. Nevertheless, to a certain extent it is a sign of the times. There can be little doubt that, although the exciting factors of neurasthenia have existed in all times, the predisposing causes are predominantly of more recent date. Neurasthenia has increased in frequency as social, political, and economical conditions have made the struggle for existence more violent and the prospects of a quiet life more perilous. So long as such conditions exist, and so long as mankind assumes voluntarily or compulsorily

to cope with them, just so long will neurasthenia continue to occur, unless by process of evolution the human species becomes more capacious to resist these factors. As there seems to be little chance that evolutionary progress will hurl itself into the breach, it becomes necessary for the individual, that he may withstand the strife, to adopt measures that will contribute to the fortification of his neural resistance and equilibrium. Such fortification is the more necessary to him who is handicapped by heritage with an unstable nervous organization. The preventative treatment of neurasthenia should be begun simultaneously with the development of the individual. Parents who are cognizant of neuropathic possessions should strive to maintain their health, so that they may bring forth sound progeny. The same attention should be given to pregnancy and to the early years of childhood that is bestowed on the hysterical and epileptic. The physical and moral education of the child should be conducted so as to result in the harmonious development of the individual's *psyche* and *soma*, and particularly the development of general equilibrium of the organism. From the beginning measures should be taken to increase the physiological resistance of the nervous system and to fortify the energizing capacity by bringing the systems of the body to the highest possible point of development; a high degree of physical health is incompatible with the development of the neurasthenic state. Outdoor life, in the country if possible, with its superabundance of air and sunlight, and opportunity for physical exercise, is naturally more conducive to the development of resistant physique than the life of a crowded city, with its enforced limitations in all these directions. Unfortunately, such environment is possible only for the few; but, nevertheless, much can be done in the way of securing some of the advantages of the country by the utilization of the parks and the aquatic and territorial environment of every large city. Children born of neuropathic parents should be given physical education first, and mental education afterward. It is unfeasible to reform the methods of education which have been found to be of greatest benefit to the greatest number, in order that the few whose inherited shortcomings are an unstable nervous organization may be benefited; but such individuals should not be required to conform to pedagogical formulary at the expense of the development of their bodies. Outdoor exercise should be supplemented by gymnasium practice, which will develop physical strength and endurance. Moreover, children of nervous parents should have greater care bestowed upon their personal hygiene and alimentation than those sprung from healthy parents. They should be accustomed early to habits of bathing, especially in cold water, so that they may receive the tonifying and sedative benefit of such application, which contributes so much to the prevention of fatigue and exhaustion. Luxuries of diet, stimulants and sedatives must be absolutely excluded.

The moral education of such children is quite as important as

the physical education; in many instances, indeed, it is more important. Unfortunately, it is almost universally neglected. It is difficult to state in a few paragraphs a formulary that shall encompass the proper bringing-up, from a moral point of view, of the children of nervous parents. It would seem almost unnecessary to attempt to do so, not only because this is beyond the province of the physician, but because parents have their own views on the matter. Nevertheless, the physician may do much by emphasizing how necessary it is to inculcate habits of obedience and self-repression, eradication of egotism and selfishness, restraint of temper and capriciousness, and the development of moral courage and of physical and mental self-confidence. Bad instincts should be thwarted by suggestion, by precept and by example. Inclination toward bad humor, sadness, pessimism, egotism and superciliousness should be combated early, and the youthful person taught that sentiments of insociability, if allowed to develop, are more potent to produce personal unhappiness than almost any other factor. He should be taught to accept adverse decisions without black looks or mean resentment; to take banter as well as to give it: to control a hasty temper, and to stamp out a sulky one; to bear failure and disappointment with a smiling face and a determined will. Too great care cannot be directed toward the harmonious development of such an individual's emotional life. Premature knowledge of sex, which, unfortunately, they often gather from literature, the theatre and the pulpit, is not infrequently the means of awakening morbid and introspective tendencies.

The period of puberty in the boy and in the girl should be jealously guarded. Children who are carefully apprised of the pitfalls of masturbation, with which the years from twelve to twenty are beset, will be most apt to go through this period without injurious experiences.

The prophylaxis of neurasthenia in the adult is in reality the avoidance of those causes which we have found from examination of our statistics to stand in relationship to the development of this neurosis. In the majority of cases the physician is not in position to advise persons who develop the disease how to arrange their lives and labors that they may avoid the occurrence of neurasthenia. He may, however, do much to prevent the recurrence of the attack. Once neurasthenia has occurred, and been recovered from, it is very liable to relapse. If it be kept in mind that it is not so much physical and mental work or overwork that produces neurasthenia as it is worry, anxiety, depression, and their entailments of sleeplessness and disordered digestion, the individual may be shown how to avoid a relapse, even without curtailment of the activities which are necessary for his existence.

Treatment of the Attack.—The treatment of neurasthenia after the disease is developed requires for its successful issue a deeper insight into the understanding of mankind than almost any other

bodily or mental disease. The physician who has the good fortune to inherit or acquire such capacity will be immeasurably more successful in aiding his patients to recovery than he who is devoid of it and at the same time master of physiology and materia medica. Nothing is more certain than that the patient's mind requires as much or more treatment than the body and its functions. The truth of this is apparent from many reasons, but from none more definitely than a knowledge of the important rôle played by the mind, the stress and abuses of it, in the development of neurasthenia, and the diverse manifestations of mental asthenia throughout the course of the disease. The introspectiveness, anxiety, undefinable fear, painful anticipation, keen realization of incapacity despite the pressing needs for action, the mental depression with its association of morbid thoughts, sleeplessness and perpetual unrest, are all undoubtedly benefited and sometimes overcome by the use of physical therapeutic agencies; but they are much more surely and frequently eradicated by the simultaneous utilization of the proper kind of psychical or moral therapy. Such psychical treatment does not consist alone in the confidence which the successful physician inspires in his patients, nor in the maintenance of authority, manifest by the patient's obedience to instructions and amenability to suggestion. Much less does it depend upon the utilization of means that appear to the patient to be supernatural, such as hypnotism. On the contrary, such mental treatment may be one of the most important therapeutic attributes of the physical means which experience has shown to be so serviceable in the treatment of neurasthenia. These measures are powerful agencies for suggestion, and as the neurasthenic is in a psychophysical state of increased suggestibility, they furnish fruitful soil for all kinds of suggestion. Next to the influence of the physician, the most important measures in the treatment of neurasthenia are the following:

(1) The general hygiene of the neurasthenic; (2) dietetics and alimentation; (3) hydrotherapy and balneotherapy; (4) electricity; (5) rest, exercise and massage; (6) climatotherapy; (7) mode of treatment, disciplinary or moral hygiene.

General Hygiene.—The general hygiene of the neurasthenic patient entails a severance from associations and environment that are apparently causing or maintaining the neurasthenic condition, avoidance or removal of all factors that tend to emphasize or to remind the patient of his infirmities, and procurement of surroundings that will contribute to mental equanimity, general quieting of the mind, and restoration of nutrition. Without these, the treatment of neurasthenia, especially if the disease be of a severe type, is often foreordained to failure. The physician who strives for the fulfilment of these indications before attempting the methodical treatment of the patient will have immeasurably greater success than he who neglects them. In many instances, unfortunately, the patient's social and financial state offers an insurmountable

obstacle. In dispensary practice, where neurasthenia is seen more frequently than are all other kinds of nervous diseases, the problem that has to be continually contended with is to devise a plan of treatment that will replace such indications. That such a one has not been found accounts for the fact that the treatment of neurasthenia among the poor is still woefully unsatisfactory.

Isolation and Discipline.—The indications just mentioned require for their fulfilment relatively complete isolation, which usually cannot be obtained at home, unless it is possible to set apart a portion of the house for the the exclusive use of the patient and the attendant. Even when this is possible, there are many reasons why the patient is much more auspiciously lodged in a boarding-house, hotel, or house conducted for the reception of such patients. Such isolation acts beneficially in many ways; it severs the patient from the sympathizing family and solicitous friends, who are ever ready to indulge him in numberless selfish acts and deeds which are invariably detrimental, and to interrogate solicitously concerning the manifold real and imaginary ailments constituting the symptom complex. Moreover, it removes him from surroundings that not only remind him of his illness and incapacity, but that tend to make him more self-centred and selfish. It serves to interrupt injurious customs, to break up pernicious habits, and, more than all, to impress him that something is being done earnestly to bring about his recovery. Many patients, especially women and their friends, are firmly convinced when such a step is proposed that its application is tantamount to driving them mad. They argue that such a plan may be adapted to others, but, considering the peculiarities of their mental constitution, and certain essential requirements for the continuance of even a miserable existence, the step is unfeasible beyond debate in their own case. Oftentimes this is the first opportunity for the physician to display that insight into the human character which we have previously spoken of as being so essential in the treatment of this disease, and his capacity to inspire confidence and secure obedience. He knows from experience, and from the statements of others, that such relative isolation is rarely, if ever, injurious to even the most sensitively-organized person, and is almost invariably conducive to the quietude, peacefulness, rest, and bolstering of nutrition, which are essentials in bringing about restoration of health. Very rarely does the step increase the patient's introspectiveness and tend to exaggerate the consciousness of his symptoms, anxieties and fears. Naturally, it is not necessary that every neurasthenic be subjected to isolation. In many cases it will be sufficient to insist that the patient withdraw for certain times during the day to the quietness of the individual chamber; to give over certain occupations or duties calling for the expenditure of energy that cannot be spared; or to postpone the time for arising until mid-day. In the average severe case, however, no compromise in the matter of isolation should be made. It is an essential feature in the rest cure, which

we shall speak of later in the treatment of neurasthenia, but here we are considering it apart from any other component of treatment. Isolation may be carried to excess, both in point of completeness and in duration. There can be no doubt that prolonged isolation, if not contracted by other means, is of itself sufficient to cause neurasthenia. The lesson to be learned from this is that individualization is very necessary in the treatment of neurasthenia, even in advising concerning the general hygiene.

The Securement of Sleep.—The next most important measure in the general hygiene consists in securing a proper amount of sleep, and as insomnia is one of the most constant stigmata of neurasthenia, this is not infrequently a difficult thing to accomplish. In many cases the use of measures that contribute to the improvement of general nutrition and physical repose—such as hydriatics, electricity, massage, gymnastics, exercise, or enforced rest—help materially in overcoming the insomnia, especially if they are aided for a short time in the beginning by the administration of sulfonal, trional, chloralamide, or one of the other modern hypnotics. As a rule, the patient has already exhausted the sleep-producing capacities of such drugs before coming under treatment; but, despite this, when given under the auspices that we are describing, they rarely fail to have a degree at least of the desired effect. Oftentimes the physician is too insistent upon securing prompt effects from the administration of sleep-producing medicines, or from the utilization of measures that contribute to somnolency, such as massage, the cold pack and drip sheet. It should not be forgotten that absolute physical rest absolves the necessity of so much sleep as is necessary under ordinary circumstances. Moreover, physical measures that contribute to sleep may not succeed fully after the first few applications, while success crowns their repeated use. Of the hydriatic measures, the most important in securing sleep are the cold wet pack, the prolonged warm bath, the drip sheet, and the wet compress known as the Neptune girdle. The latter, which consists of a bandage of coarse linen which reaches around the entire lower part of the trunk, fastened in front so that the abdomen has a double covering, is wrung out of water of 60° to 65° F., and covered with a dry bandage. Applied on retiring, after the parts have been bathed with cold water, this simple means is often very serviceable in contributing to sleep. The prolonged warm bath, temperature 95° to 100° F., the patient being kept in from twenty to forty minutes, is likewise very serviceable in bringing about relaxation of mind and body preparatory to sleep. The drip sheet—which is applied by throwing a linen sheet, which has been loosely wrung out of water at 65° F., around the patient, who is standing in a foot tub of comfortably hot water, and with a Turkish towel wrung out of iced water about the head; then bringing the sheet in apposition with every part of the skin by a few quick rubbings of the attendant's hand; the sheet being then removed and the patient dried, and the

reaction supplemented by light massage or rubbing—is oftentimes very serviceable in overcoming insomnia. These hydriatic measures should be tried in succession. When one does not succeed, it is very likely that another will. Some neurasthenic patients have no difficulty in going to sleep early in the evening, but awaken after a profound, unrefreshing sleep of two or three hours, to remain awake for the rest of the night. In such cases, especially in women, prolonged and severe massage of the entire body, of about an hour's duration, sometimes succeeds in causing the patient to sleep. In others the hydriatic procedures above mentioned are successful. Occasionally the administration of from six to twelve ounces of warm milk, plain or peptonized, seems to have an effect in bringing about mental and physical composure, which tends to the occurrence of sleep. In cases of this kind one has to decide the advisability of preventing the patient from going to sleep immediately after the evening meal, so that the regular time for going to sleep will find the patient more ready.

Dietary of Neurasthenics.—The dietary of the neurasthenic patient will depend largely upon the state of his digestive functions and upon the type of neurasthenia. Certain neurasthenics, whose fears, thoughts, and anxieties are predominantly of their viscera, and in whom careful physical and chemical examination shows no considerable abnormality, either of the digestive system or its contents, are made more self-centred and hypochondriacal if any considerable stress is laid upon the diet or attempt made to modify or regulate it. Such patients should be advised to satisfy their appetites for food as if they were rugged individuals, and to partake especially of coarse, green vegetables, which will have an effect to produce large and ready evacuations. They should be urged likewise to drink freely of water. In other patients there will be found slight derangement of the digestive function—such as temporary excessive acidity or diminished acidity of the gastric juice, stomachic and intestinal fermentation, sluggish vermicular action, flatulency, etc.—which readily respond to the administration of the indicated symptom medicines, particularly if general treatment for the neurasthenic state be applied at the same time. Patients when first coming under observation frequently dwell upon the fact that they have been under the treatment of a number of physicians, usually specialists, for the relief of first one symptom and then another, and they produce a package of prescriptions to attest the amount and variety of medicines that they have taken to overcome what seems to them, and apparently also to those who have treated them, their ailments. The failure of such local treatment is easily understood. It is like attempting to repair a shattered fence without first renovating the foundation.

In some neurasthenic patients the general asthenia is manifested predominantly in the digestive tract, and we have to deal with a gastro-intestinal atony, whose prolonged existence leads to dilatation of the stomach and the intestines. The results of such condi-

tions are that the viscera are unable to pass the ingesta along with appropriate facility and thoroughness. This, in connection with the existence of deficient secretion of the digestive juices, which is indirectly dependent upon the atony, leads to fermentation and to the formation of substances which when absorbed into the system are injurious. Such fermentation and auto-intoxication cause symptoms which the patient believes to be of great seriousness, thus adding to the mental depression, and strengthening the conviction that this disease must be an unrecoverable one. The indications for local treatment in such a case are to be determined by the administration of a test meal, that it may be observed how long it takes for the stomach to pass the food into the intestines, and that the contents of the stomach may be removed for analysis to show the relative proportions of the constituents of the gastric juice. After this information has been obtained, and after the stools have been subjected to scrutiny to determine whether they contain undigested foodstuffs, or are of shape and size pointing to impaired activity in different parts of the large bowel, the physician is in position to decide what local or symptomatic treatment is required. An enumeration of the various substances that must be used to fulfil special indications in individual cases would not be profitable. The most important measure in overcoming the gastro-intestinal asthenia, which is primarily at the bottom of all the digestive disturbances, is the utilization of the physical measures which experience has shown to be so valuable in the treatment of neurasthenia. The patient should be assured, repeatedly and convincingly, that no organic disease or irremediable condition is present. Careful observation should be made to determine the foodstuff that disagrees with the patient, and this, with all substances that are very difficult of digestion, should be eliminated from the diet. As a rule, a mixed diet is best for the neurasthenic patient, but meat should not be given more than once a day, and then only the most digestible forms. Cereals, such as rice, sago, cracked wheat; green vegetables, such as spinach, string beans, and celery; peas, fresh beans, and potatoes, prepared in purée form, can usually be taken by almost every neurasthenic patient. As a rule, white vegetables are to be avoided. Bread is to be taken in moderation, and preferably in the shape of bread made from the whole grain, toast and zwieback. Not infrequently regulation of the amount of bread is of the greatest importance, as a considerable proportion of these patients have starch indigestion. There is a general impression, both among the laity and the profession, that fats have a special capacity to nourish the nerves. Aside from the fact that they are the most important carbon constituent of food, and therefore require greater oxidation for their combustion, there is no ground for such belief. Care must always be had in estimating the amount of fats that can be given to a neurasthenic individual, because they not only have a tendency to disorder the digestion, but by causing satiety they stand in the way of other and more important foodstuffs, such as

the vegetable proteids. Sufficient fats can usually be given in the shape of milk, butter and cream. Patients who believe they have an idiosyncrasy for one or two of these substances may be able to take the other. The most eligible way of administering cream is by giving cream toast, which is prepared by taking a piece of thoroughly toasted bread, sprinkling it with a few drops of water and a pinch of salt, and then pouring over it a thick layer of cream, fresh from the icebox. Neurasthenic patients can usually take this once or twice a day without interference with their appetite or digestion. When the patient can tolerate it, milk, or some preparation of it, should be given to supplement regular meals. Personally we have found the most advantageous time to administer milk to be one-half hour before eating, or two hours after a meal. When it is given a half-hour before a meal, and the patient is instructed to keep absolutely quiet until meal-time, it very often seems to have no effect whatsoever in depressing the appetite. Many writers on neurasthenia contend that three times a day is sufficiently often to feed neurasthenic patients, but such is not our experience. Many of these patients have their only minutes of well-being for a short time following each meal, while, on the other hand, they are usually much depressed by going without food for several hours.

The Interdiction of Stimulants.—The physician's course in determining whether or not alcoholic drinks, tea, coffee, tobacco, etc., shall be taken, is shaped very largely by the patient's habit and reaction to these substances. If the development of the neurasthenia stands in any relationship whatsoever to such indulgence, they should be absolutely excluded. If, on the other hand, the patient has been accustomed all his life to taking a small quantity of light wine or beer at meal-times, and if it is apparent that such indulgence contributes to help the appetite and digestion, the indications are favorable to the continuation of such habits. Nevertheless, it may be stated, as a general rule, that all of these substances tend to derange digestion rather than to contribute to its restoration, and they should therefore be avoided. Malt liquors especially seem to possess the capacity to fermentation. I have not been able to convince myself of the reputed reconstructive and nutritive qualities of any of the malt extracts. They may assist sometimes in creating an appetite, but they can be satisfactorily replaced, and without any of their disadvantages, by the use of simple bitters.

The dietary indications that have thus far been spoken of are applicable to the neurasthenic individual who is not afflicted with other disturbances of the gastro-intestinal tract than those enumerated. Unfortunately, from five to ten per cent. of all neurasthenic patients present some graver form of gastro-intestinal atony and its accompaniments, which require very particular treatment, as the disorder of general nutrition which they condition is obstinately opposed to repossession of the neutral equilibrium. The most uncommon of these graver forms of digestive trouble is that

known as hypochlorhydria, associated with slight or considerable dilatation of the stomach. When this condition occurs in elderly persons, associated with the neurasthenic state, it is one of the most difficult to overcome. It should be treated by regulation of the diet, by cutting down the animal proteids and increasing the vegetable proteids and easily digested starches, by the administration of milk in connection with some alkali, such as bicarbonate of sodium in from twenty to sixty grain doses, preferably at bed-time, and by the administration of alkaline drinks, such as natural Vichy. Intestinal fermentation should be counteracted by the occasional administration of small doses of calomel, followed by one or more doses of Carlsbad salts, and by the interrupted administration of ichthyol, one of the bismuth preparations, resorcin, etc. A useful formula is the following:

℞ Menthol. salicylat.,
Pulv. rhei.....āā ℈iiss.
Ichthyol..... ℥i.
M. ft. caps. No. xxiv. S. One capsule t. i. d.

The most important elements in the treatment are regulation of the diet and the administration of a suitable amount of alkali. If the condition be one of hypochlorhydria, such alkaline administration would be decidedly injurious. In addition to the general treatment to overcome the myasthenia, the galvanic current may be applied to the stomach through the abdominal parietes, or preferably by the intragastric method of faradization or galvanization. In our experience the latter method has shown itself of greater service than the former. Very little benefit is to be obtained from the use of some constituents of the digestive fluid, artificially prepared, such as pepsin and pancreatin. If they are used at all, it should be for only a few doses. Many neurasthenic patients come to the physician with the history that they have been in the habit of washing out the stomach regularly for many months. On general principles it may be said that benefit will follow immediate cessation of such custom. Moreover, it may likewise be said that the only condition that justifies repeated lavage of the stomach is one of chronic gastric catarrh, with an accompaniment of considerable secretion of mucus. Even in such a case its use should be alternated with intragastric electrization, and frequently intermitted and replaced by the administration of copious draughts of warm or hot water.

Constipation is an accompaniment of the disease in the majority of instances. In about 5 per cent. of all cases there is a history of symptoms that leads to the diagnosis of mucous enteritis, the prominent accompaniments being irregular diarrhea, with variable amount of mucous discharge. To overcome the constipation is usually not a difficult task, if the physician keeps in mind that the two prominent elements entering into its causation are sluggishness of vermicular action—a manifestation of the myasthenia—and a

deficiency in the watery constituents of the stools. To overcome these it may be necessary to employ, in addition to the general treatment for neurasthenia, abdominal massage, such drugs as strychnine and belladonna that are known to have special action to cause contraction of unstriped muscular fibre, and laxatives, on the one hand; while the second factor in causing constipation is thwarted by having the patient take freely of water, and of substances that lend bulk to the stools. If this is not sufficient, our own experience has taught us to rely upon enemas of olive oil or cotton-seed oil, administered to the patient in the knee-chest position, through a tube which is carried beyond the junction of the rectum and colon. From six to eight ounces of oil are introduced very slowly, and after the patient has become somewhat accustomed to the procedure there is no difficulty in retaining it. It should be repeated about every fifth day. The phenomena of mucous enteritis are best combated by the use of the Neptune girdle externally, and by copious flushings of the large intestines with plain water, or with water to which some alkali or antiseptic, such as boric acid, has been added. These cases require careful selection of the diet and regulation of the amount that can be profitably administered. In some cases in which the taking of food is immediately followed by a desire to go to stool, with the voidance of a small amount of feces and a large amount of mucus, the occasional administration of one of the bromides is beneficial.

Neurasthenia occurring with excessive formation of uric acid, or relatively defective elimination of this substance, requires special dietary treatment. A narration of the details of such treatment will not be made here, as it differs in nowise from the most approved dietary treatment of any of the manifestations of the uric-acid diathesis. The most important thing to be borne in mind is that a too rigorous insistence on an anti-uric-acid diet may prevent the recuperation of nutrition upon which recovery from neurasthenia is dependent.

(*To be concluded next month.*)

TIME LIMIT.

Occasionally a letter is received in which the writer gravely says he is taking so many journals he cannot read the half of them, etc., the polite phrases being framed as an excuse for discontinuing his subscription, which is all right and in perfect accord with the privilege of every man who knows and attends to his own business, with which there is no occasion whatever for argument. It serves, however, as an introduction to the claim made that he has not time to read half the journals he is taking.

The time was, and is not so very far back, when the ordinary general practitioner of medicine thought he was doing entire justice

to himself, his profession and his clients if he took a single medical journal. Conditions and times have greatly changed within the last twenty years. A medical education costs more than twice as much time and money as it did then, and the literature of medicine has quadrupled within the period. Friction and competition have increased in a similar ratio, so that the men who are ambitious to be at the front find themselves obliged to purchase new and improved instruments of precision, new books, and to take more than one or two medical journals. The man who has little business is always the one most crowded for time, and the little business he has is his boss.

The men who do the most work and accomplish great results always have time at their command and always boss their business. They are rarely crowded, and seldom in a hurry. Visitors are received and made to feel a welcome that is not an intrusion, that time is easy, no fret or fidget; work is either going on or there is a timely rest. Such men take, and read, from ten to twenty or more journals. They don't pretend to read every article, but they carefully read those in which they are interested, and scan more or less closely the advertising pages. In the latter many useful hints are found; here they find reference to the tools of latest pattern and design, hence do not pretend to pass them by.

The known men in the profession are the very ones who can be most easily and successfully approached for any given purpose, whether it be to write an article or to deliver a lecture, go on a journey or engage in a new enterprise. Their engagements are rarely pressing, and are always so dovetailed in time as to leave ample margins, and at the same time always fit in the right places.

The man who hasn't time to read half of the two journals he is taking is either fussing about a call he has to make or fretting because another doctor was called where he expected to officiate as chief factotum. In either instance his hours are so jaggered that he has little or no time to read, and that which he does read is not remembered.

Two things are never realized by the man who hasn't time: one is that there are even and exactly sixty minutes in every hour, and the other is like it, in which he fails to understand in its true bearings that there are neither more nor less than one hundred cents in every dollar.

The busiest men in the medical profession always attend the national, state and local medical societies. They are the ones who read papers, take part in the discussions and then attend all the social functions. Not once are they disconcerted by pressing business engagements, a reason for which is found in the fact that just at that time affairs are so arranged that pressure does not come.

The men who can't get off to attend such meetings are worried and perplexed for fear some rival will profit by their absence, instead of swapping time and business with such rivals, through

which both would prosper and be better thought of. The world is wide and there are other pebbles on the beach.

In joint stock corporations there are not infrequently two classes of stockholders—those who hold preferred and those who hold common stock in the concern. The first class receive a stipulated dividend, not usually a large one, but it is assured out of the first earnings of the company. The common stock dividends are more precarious, and may be either smaller or larger than those paid to the preferred class. As a rule preferred stock is preferred by investors—preferred because it is preferred and has less liability of loss.

Most current periodicals have two classes of subscribers—preferred and common. The preferred are preferred because they pay approximately in advance, are constituted of the men who have time to read and press their business, and do not allow their business to boss them. They go to association and society meetings, know there are sixty minutes in every hour and one hundred cents in every dollar. They know who and what is going on in the world, and are themselves right in the van. In the language of the Alabama congressman they know where they are at. They know the publication they want, know the price of it, and the advantage of prompt payment, not only to themselves, but to the publisher, and get the lowest spot-cash rate.

The non-preferred, or common subscriber, who is bossed by his business, and hasn't time to read either books or journals, says to himself he will pay, if convenient, when a certain patron pays his bills, or when his ship comes from over the deep, blue sea, and acts accordingly, so that dun follows dun. To meet time engagements and risk of absolute losses, where the patron has not paid nor the ship escaped foundering on unseen shoals, the subscription price is advanced, so that the delinquent has to pay interest for a withheld small sum.

The writer knows very well that there are unforeseen circumstances which make men do as they can and not as they desire, which obliges them to curtail on the necessaries of life as well as on luxuries which they crave, and with whom no fault can be found. They remind the writer of a recent conversation with a successful man in another profession, in which he said he believed men, most men, had a call—providential call—to some pursuit; by which he meant that Nature, more or less according to the loudness of the call, fitted them, and in which they generally achieved some success in life. Often a call was heard and accepted, whereas it was intended for another. There are men who enter the ministry erroneously, but perhaps honestly, believing they are providentially called, when they heard only an echo that should have gone to another. He believed there were calls to enter the medical and other professions. In this opinion he was right. Every physician knows perfectly well that there are those in his profession who are not only unfitted by nature for their occupation, but are

actually unhappy in it, and may generally be classed as failures. Fortunately, there is an elasticity in the well-rounded, well-balanced man, which enables him to surmount obstacles and to adapt himself to spheres of influence, even in a life-work where and when he would have wrought much more easily and been of a more pronounced success in another calling than the one which circumstances threw him into.—*Lancet-Clinic.*

ARGONIN, HOECHST PATENTED.*

AN IDEAL THERAPEUTIC AGENT FOR THE TREATMENT OF GONORRHEA.

An ideal therapeutic agent for the treatment of gonorrhea should possess the following characteristics: it should not only destroy the gonococci, but at the same time it should alleviate the irritation of the mucous membranes, without giving rise itself to the slightest symptoms of irritation. None of the substances hitherto employed in the treatment of this disease fulfils the whole of the above requirements.

The introduction of argonin marks a decided advance; the remedy destroys gonococci very rapidly without producing any irritation. Argonin should be carefully dissolved by warming it with water. Fifteen grams of argonin contain an amount of silver equivalent to that in one gram of silver nitrate. Meyer has already reported on the anti-bacterial properties of argonin, in the *Zeitschrift fur Hygiene*, 1895; its clinical application was introduced by Jadassohn (*Archiv fur Dermatologie und Syphilis*, 1895). We have employed the substance in the concentration of 3:200, and injected 10 c.cm. of this solution five times daily.† The injected fluid was retained five minutes in the urethra. By this method we treated twelve cases of gonorrhea as early as possible in the course of infection. Of twelve cases observed, in nine the gonococci permanently disappeared in from two to six days; one case afforded special interest in that gonococci were readily detected after four weeks' treatment with *injectio composita*, but permanently disappeared after two days' treatment with argonin. In one of the other cases gonococci were still found after ten days' application of argonin; in another the gonococci reappeared as soon as the argonin treatment was interrupted; a third case was removed from our observation after fourteen days. Not a single complaint of irritation was heard from any of the patients. The secretion persisting after discontinuance of argonin treatment was quickly overcome by the use of zinc sulpho-carbol, etc.

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* Physicians desiring further literature on argonin may secure it from Leysieffer, Pollack & Co., Montreal.

† Of late Jadassohn has employed 2½-3 per cent. solution of argonin.

We are inclined to agree thoroughly with Jadassohn that argonin possesses pre-eminent gonococci-destroying qualities, and does not occasion irritation. It is therefore specially adapted for the early treatment of gonorrhea.—Dr. A. Lewin, in the *Berlin klinische Wochenschrift.*

STYPTICIN IN HEMORRHAGE.

Dr. Gottschalk, of Frankfort, reports (*Brit. Med. Jour.*, No. 1828, p. 7) the results from the use of stypticin in forty-seven cases of hemorrhage. It may be given hypodermically (in urgent cases), or per os in solution or gelatin pearls. Dr. Gottschalk finds that 0.05 gm. ($\frac{3}{4}$ grn.) may be taken five or six times a day without any untoward effect. It has a great advantage over hydrastinine and other uterine hemostatics, in that, as might have been expected from its source, it possesses a well-marked and potent sedative action that is both local and general, and hence specially indicates its use in dysmenorrheic affections. Stypticin promptly checks hemorrhage resulting from pure uterine subinvolution—that is, that due to muscular atony and not to retention of membranes, etc. In fungous endometritis it is a valuable adjuvant to the curette; and it is very useful when the patient objects to curetting, and particularly in those cases in which this treatment does not stop the hemorrhage. It is also useful in bleeding caused by fibroids or the climacteric. In purely congestive menorrhagia it is well combined with hydrastinine. In menorrhagia the drug is best given four or five days before the period, 0.025 to 0.05 gm. ($\frac{3}{8}$ to $\frac{3}{4}$ grn.) four or five times a day, and continued until bleeding ceases; this not only diminishes the hemorrhage, but also renders the use of much smaller doses sufficient.

In violent hemorrhage stypticin should be given hypodermically, according to the following formula:

Stypticin ..... 1 gm. (15 grn.)
Distilled water ..... 10 gm. (150 min.)
Inject daily 2 c.c. (30 min.) into the gluteal region.

Stypticin is powerless to control the bleeding of uterine polypi, and is contra-indicated in threatened abortion, or, indeed, in any of the hemorrhages of pregnancy, as it has a marked power of stimulating uterine contractions. This may be induced by it directly, or it may result indirectly from the anemia produced by its vaso-constrictor action.

In all of Dr. Gottschalk's experiments no other treatment than that of stypticin was adopted.

Stypticin (chemically, Cotarnine Hydrochlorate) is obtained from the opium alkaloid narcotine by the action of oxidizers. Its formula is $C_{12}H_{13}NO_3H_2O.HCl$, and it occurs as yellow crystals or powder, readily soluble in water and in diluted alcohol.

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Original Contributions.

ADDRESS IN SURGERY.*

BY W. B. COLEY, M.D., NEW YORK.

GENTLEMEN,—I come before you to-day with mingled feelings of pleasure and anxiety, due on the one hand to a deep appreciation of the high honor conferred upon me by your invitation to deliver the "Address in Surgery" before such a distinguished gathering, and on the other, to a fear that I shall fall far short of your expectations.

I am aware that time-honored custom and tradition call for a very general subject, such as the "Art of Surgery," "Advance in Surgery," and the like, but a somewhat careful study of recent addresses has convinced me that this ground has already been gone over so frequently and so well that I trust you will pardon me for choosing a subject which, though somewhat special in character, is still one of universal interest, and of rapidly increasing importance to the medical profession, viz., "The Radical Cure of Hernia."

It is impossible to view the present methods and results of the operative treatment of hernia in the true perspective without a brief survey of the past, stopping here and there for a moment to note the more important landmarks.

The historical picture presented shows that this evolution has not been a gradual and harmonious development, but rather a series of brilliant conceptions based on more or less sound anatomical principles, at one time commanding the respect and confidence

*Read before the Canadian Medical Association, Toronto, August, 1899.

of the leading masters of surgery of the day, and at another relegated to quacks and travelling rupture curers, who alone kept them from falling into utter oblivion, until under the new stimulus caused by the great discoveries of anesthesia and antisepsis, they were again revived and elaborated.

While we find occasional reference to hernia and its treatment in the writings of the early Greeks, the first recorded description of an attempt to cure the condition by operation was made by Celsus, a Roman who lived during the first half of the first century, A.D., and to him must be given the honor of being the founder of the radical cure of non-strangulated hernia. Although we do not possess a careful description of his method, we know that he possessed a very good conception of the anatomical and pathological conditions present, and that he actually proposed and successfully executed many of the steps which even to-day form the most important features of modern methods.

His operation consisted in a free open incision over the hernial tumor, exposure of the sac, and probably the removal of the whole or a part of the sac. If the omentum was present it was pushed back if possible; if not, a needle was passed through the middle and it was then tied off in two portions. The wound was then, closed by sutures. The testis was not removed, and care was taken not to injure the cord in the dissection of the sac. At that time this procedure must have been regarded as radical to the degree of rashness, and we are surprised to find in his rules for the selection of cases for operation evidence of such sound judgment and rational conservatism.

He operated only upon children between the ages of six and fourteen years, and, moreover, only in subjects in good health with comparatively small herniæ, as he recognized the fact that these cases are the most likely to withstand the risks of operation, and, furthermore, that in them the chances of ultimate cure are greater than in any other class of cases. He advised against operating upon umbilical hernia in children, knowing what many surgeons to-day have failed to learn, viz., that umbilical hernia in children is almost without exception cured by nature, without operation. Heliodorus, who flourished under Trajan, at the beginning of the second century, has given us a description of a method of operation for hernia which actually surpasses many that are now offered to the profession as new and ideal. He says,* " We must cut off the hernial sac with great care, for if you take away less than is protruded the result will be the production of a new hernia. In order, therefore, that we may not miss excising an amount that is precisely correct it is necessary to draw the sac outward by catching the tip. So soon as the edges of the abdominal wound begin to be averted, enough of the peritoneum has been drawn out, and so much is to be excised. When just enough peritoneum has been

* Albert Lehrbuch der Chirurg, B. III., and Halsted, *Bulletin Johns Hopkins Hospital*, No. 29, 1893.

drawn out the sac is to be twisted. Having been cut off along a straight line the peritoneum becomes folded upon itself, and screwed up and closed so tight that not even the point of a probe can be introduced."

As Halsted, writing in 1893, has well said, "With the exception of torsion of the sac, which we replace with suture, the operation for the radical cure of hernia in the time of the Roman emperors was quite on a par with the operation as usually performed in our day."

A few centuries later this operation had been abandoned.

Paul of Ægina in the seventh century, following in many points the methods of Celsus, introduced a new and radical step, viz., castration. Without attempting to separate the cord from the sac he transfixed the sac with a "large-sized needle containing a double thread." This thread was then cut, and the ends crossed like the great letter X, and tied. The portion below the ligature with the testis and cord were then cut away.

It seems difficult to understand how this method so inferior to the methods of Celsus and Heliodorus should have survived to modern times, while the former were so soon forgotten.

During the Middle Ages many methods were introduced. Castration was still performed, though according to William of Salicetus, only by travelling rupture curers and foolish physicians. Of the other methods the principal ones were:

1. Exposure of the sac and closure by various forms of ligature.
2. Inclusion of the sac and scrotum either by needles or by sutures.
3. Cauterization applied in various ways.

The cure by cautery was known by Paulus and was much employed by the Arabians. It continued in vogue almost to modern times. Full details of the method are found in the writings of Pott,* who thus describes it:

"After a proper time spent in fasting and purging, the patient must be put into an erect posture and by coughing or sneezing is to make the intestine project into the groin as much as possible, when the place and circumference of such projections are to be marked out in ink. Then the patient is placed on his back, the intestine is to be returned fairly into the belly and a red-hot cautery is applied according to the extent of the marked line. For this purpose cauteries of various sizes and shapes and figures have been devised."

Different writers differ widely as to the extent and depth of the cauterization, but as Pott adds: "In all of these the exfoliation of the bone is made a necessary part of the process. Eschars and sloughs being separated and the exfoliation cast off, the patient is ordered to observe an extremely careful regimen, to lie on his back during the cure and to wear a bandage for some time after-

* Vol. II., p. 177.

ward in order to prevent a new descent of the parts, which notwithstanding all the pains and all the hazard the patient had undergone he was still liable to."

Cauterization by means of strong acids, such as sulphuric and nitric, were also employed.

It is not difficult to understand the dire results that not infrequently followed these methods and which finally led to their abandonment.

Bordenhave (quoted by Lawrence) states that of three patients treated at one of the hospitals in Paris, one died, one relapsed and the third had a swelling of the spermatic cord. Peritonitis, gangrene of the scrotum and testis, and even perforation of the bowel often formed part of the after history of these operations. During the eighteenth century castration became so common, especially in France, that finally stringent laws were passed condemning it. As an example, it is stated that the Bishop of St. Papoul found more than five hundred children had been castrated for hernia in his own diocese alone.

The celebrated "punctum aurem" was introduced by Geraldus of Metz. It consisted in exposing the sac and encircling it with a thread of gold in such a manner as not to include the cord.

Such then was the state of the radical cure of hernia at the beginning of the nineteenth century. We find an occasional return to ancient methods in the early part of the present century, notably by the Prussian surgeon, Schumaker, and the elder Langenbeck. They made an open incision and dissected the sac from the cord, then ligated it as high up as possible. Langenbeck stated that he had performed the operation twelve times with the most successful results. The method, however, did not meet with general approval and does not seem to have been much employed.

With the introduction of subcutaneous surgery by Stromeyer, in 1835, there followed attempts to apply its principles to the cure of hernia. The most notable example of these operations were the methods of Wützer and Gerdy, and a little later the method of John Wood, of London, which was a combination of the open and subcutaneous methods. Woods' method was introduced in England in 1857, and even up to recent times it was more generally employed that any other method both in Europe and in America.

The best results were obtained by Wood himself, who claimed a large percentage of cures. The mortality of the method was about 7 per cent., though in his later series of cases this was reduced very considerably.

By modern methods we mean those that have been introduced or rather re-introduced after the great discoveries of Lister and Pasteur. It took some years for the principle of antisepsis to become sufficiently accepted and put into practice by the leading surgeons, before serious attempts were made to apply them to the radical cure of hernia.

In the first place a distinction should be made between opera-

tions for strangulated hernia and those deliberately undertaken for the purpose of effecting a radical cure. Strange as it may seem the operation for strangulated hernia is of much more recent origin than that for non-strangulated hernia. Up to the seventh century taxis alone had been used for strangulation, and to Pierre Franco, in 652, must be given the honor of introducing herniotomy. His minute description of the operation forms one of the bright spots in the surgery. Later, Franco's method was taken up by Ambroise Paré and most strongly endorsed. Paré was the first surgeon, so far as we know, who advocated operation for all cases of strangulated hernia. His teaching, however, fell on barren ground and it was not until several centuries later that herniotomy became generally adopted.

Up to the beginning of the nineteenth century it was practically unknown in America. In the life of J. C. Warren* we find it stated that when he began to operate in Boston (about 1804), the operation for strangulated hernia was almost unknown. He had just returned from England and attempted to put into practice what he had learned from his illustrious teacher, Sir Astley Cooper, but when he proposed to operate on a case of strangulated hernia, he was met with the greatest opposition both from the other physicians and from the friends of the patient. He finally gained consent to operate, but the long delay caused the death of the first two or three patients. Convinced that he was right, his genius and courage enabled him to go on, and the brilliant results of his later cases did much towards establishing the operation for strangulated hernia in America, upon the solid foundation that it has ever since enjoyed. It does not appear, however, that any serious attempts were made to effect a radical cure until after the introduction of Lister's methods of antisepsis.

Henry O. Marcy, of Boston, who had enjoyed the privilege of personal instruction under Lister in 1870, appears to have been the first to operate upon strangulated hernia under antiseptic methods, and to close the canal by means of absorbable buried sutures of catgut. On the 19th of February, 1871, he operated upon a woman, aged fifty years, for strangulated inguinal hernia, and closed the canal by "two stitches of medium-sized catgut directly through the pillars of the ring."

On March 10th, 1871, he operated upon a second case of strangulated hernia, also in a woman, and closed the canal "by three large-sized catgut sutures passed deeply through the pillars of the ring and the wound carefully dressed antiseptically with Lister's carbolic plaster."†

The sac was not opened in either of these cases.

Dr. Marcy's first attempt to cure non-strangulated hernia by operation was February 4th, 1878, or several years subsequent to

* Vol. 1, p. 37.

† *Boston Med. and Surg. Jour.*, November 16th, 1871.

the operations of Steele, Annandale and Czerny. Richard Steele, of London, deserves the honor of first attempting to cure non-strangulated inguinal hernia after the introduction of antiseptic methods, though he very modestly states that it seems such a natural proceeding he does not doubt that others did it before him.

In the *British Medical Journal*, November 17th, 1874, p. 584, Steele reports his most interesting case. The patient was a boy eight years of age. He cut down upon the canal, exposed the pillars of the ring, pared their edges and united them with catgut sutures. The hernia recurred in six months, became strangulated but was reduced by taxis. Steele then did a second operation and the patient was well one year later. This case does not seem to have received the attention it deserved, and to Czerny is usually given the credit of being the author of modern operations. His first report of five cases was published in *Wien. med. Woch.*, No. 22, 1877, p. 527. His first patient was operated upon January 1st, 1877, more than three years later than Steele's. The neck of the sac was ligated with catgut, and the pillars of the ring were sutured with catgut. The skin was closed with catgut, two drainage tubes were used, the wound healing over in forty-seven days. In the second and third cases the pillars were closed with catgut, and in the fourth and fifth cases with silk sutures.

It will be seen that Czerny's operation shows a distinct advance over the operations of Marcy and Steele, viz., he dissected out the sac and ligated it before suturing the canal. From the limited experience derived from his early cases, Czerny concluded the "thousand-year-old problem of surgery" was nearing solution. Of his first five cases four suppurated and one died. Time will permit but the briefest reference to the more important of the numerous methods devised since Czerny's first report. As early as 1879, Tilanus, of Amsterdam, had collected and reported before the International Medical Congress 122 cases in which operation was performed by supposedly antiseptic methods. Seventy-nine of these cases were non-strangulated, and forty-three were strangulated. Too few cases had been traced sufficiently long to justify conclusions as to the permanence of the cure, and the immediate mortality of 6 per cent. made many physicians hesitate to advise, and surgeons to perform the operation. The subject, however, was so fascinating and the goal was of such inestimable importance, that the minds of the leading surgeons of the world were engaged in attempting to modify the old methods, or to devise new, with a view of diminishing the dangers and improving the final results. The methods at present in vogue are the result of somewhat rapid evolution in accordance with the law of survival of the fittest. Not one, but many workers in the field deserve lasting honor for the part they have played in conferring a priceless boon upon humanity. Among these names should be mentioned, Steele, Annandale, Czerny, Marcy, Banks, Championniére, MacEwen, Barker, Ball, Socin, Bassini, Bull, Weir, Halsted and Kocher.

While many of the earlier methods have been superseded by newer and better, we must not forget that the experience derived from the older methods has made it possible to discover their shortcomings and to devise appropriate remedies; therefore, let us not refuse them a place of honor. It would be tedious to enter into anything like a full description of the various methods mentioned, nor is it necessary. Many of them are no longer in use, having fulfilled their part and given place to better. There are still a number of methods in vogue, each of which is represented by its advocate as the ideal operation, and it is clearly our duty to study these carefully and attempt to discover, if possible, the best.

MacEwen's method, first performed by its author in 1879, and introduced to the public by a most able paper (*Annals of Surgery*, August, 1886), was largely employed by English and American surgeons, and even to-day has its warm supporters. The results in the hands of MacEwen were almost ideal, but, whether due to difficulty in learning the details of its technique or to other causes, the same brilliant results were not attained by other surgeons. The step of the operation upon which the most stress was laid, viz., the infolding of the sac so as to form a barrier at the internal ring, was in itself a source of danger and difficulty in certain cases. Sloughing of the poorly-nourished sac and prolonged suppuration, ending in speedy relapse, were some of the results in less skilled hands than those of the author. And with the introduction of other methods, notably those of Bassini, it has gradually been given up. Whether the infolded sac remains for any length of time and plays a really important part in preventing relapse may well be doubted. In one case in which the patient died several years after operation by MacEwen's method, Lauenstein found the sac still folded up into a firm pad which apparently closed the canal and aided in preventing a return of the hernia. In another similar case, observed by Bassini, in which the autopsy was made 95 days after operation, no trace of the folded sac could be found. We prefer to believe the excellent results obtained by MacEwen were due not so much to the peculiar treatment of the sac but to the very careful closure of the canal by chromicized catgut.

The same would hold true of the Kocher method, in which the sac is brought out through a cleft in the aponeurosis of the external oblique. He has already so modified his method that only a small portion of the sac is now left instead of the whole, or the larger portion.

There has been considerable dispute among those of the profession inclined to lay stress upon matters of priority, as to whether the idea of transplanting the cord originated with Bassini, with Halsted or with Marcy. A careful and an entirely unprejudiced study of the reported writings of all would seem to show that the honor should rest with Bassini. Halsted, in March 1893, in his most valuable paper describing his own method, and

giving a report of 58 cases operated upon by this method,* states that he had described his operation more than three years before,† six or eight months before the publication of Bassini's paper in 1890, containing his report of 251 cases. Halsted was evidently not familiar with Bassini's first report of 102 cases made before the Congress of Italian Surgeons, in March, 1888, or two years before the date of his later and more complete report. An abstract of this early report and a description of Bassini's cure was also published by Marcy in his book on "The Radical Cure of Hernia," in 1889, which also contained a description of Marcy's own operation.

The method of Marcy, which differs materially from that of Bassini in most of the details of technique, has one important point in common with it, viz., the restoration of the obliquity of the inguinal canal. All of these surgeons have apparently worked out their ideas independently, and each deserves credit proportionate to the value of his own method of operation.

I wish the time permitted a fuller description of these methods, because their technique is not always understood by surgeons who attempt to perform them.

I have frequently seen cases come to the Hospital for Ruptured and Crippled, less than eight weeks after operation by a so-called Bassini method, with well-marked relapse. A glance at the scar alone was sufficient to prove that Bassini's operation could not have been performed. One cannot properly perform the operation with an inch and a half to a two-inch incision, the upper extremity of which extends scarcely above the external ring. Were I called upon to give what I believe to be the most frequent errors of technique and those most responsible for failure to obtain good results, I would place first an incision of insufficient length, both in skin and aponeurosis (it should be at least three inches long), and placed too low down. Second, failure to dissect back the aponeurosis of the external oblique well over to the edge of the rectus muscle. Third, careless or unskilful dissection of the sac from the cord and the surrounding tissues, thus prolonging the operation and bruising the tissues, thereby lessening the chance of primary union. Fourth, too great tension upon the buried sutures, or the use of non-absorbable sutures.

The question of sutures I will discuss later.

I do not need to tell you that the essential feature wherein Halsted's method differs from Bassini's, lies in the treatment of the cord and the closure of the canal. In Bassini's method the canal is closed by suturing the internal oblique and transversalis to the shelving portion of Poupart's ligament (which must always be very clearly exposed), the aponeurosis being carefully retracted on either side during this suturing. The rent in the aponeurosis is then closed from above downward as before, by means of a continuous

* *Bulletin Johns Hopkins Hospital*, Vol. I., No. IV., No. 22, p. 20.

† *Bulletin Johns Hopkins Hospital*, Vol. I., No. I.

suture, until, at the lower angle, just enough space is left to permit the cord to pass without undue compression.

In Halsted's method, on the other hand, the cord is transplaced more externally, so that it lies just beneath the skin and superficial fascia, the aponeurosis with the underlying muscles and transversalis fascia, on the one side, being united to the transversalis fascia, Poupart's ligament and the aponeurosis, on the other, by means of a single row of five or six mattress sutures. One sees at once that if the cord were left in its normal proportions there would be great danger of relapse at the point where it emerges. To lessen this danger it was ingeniously proposed to remove "all but one or two of the veins of the cord." Whether or not such a procedure might not cause atrophy of the testis was a matter that experience alone could determine. The subsequent histories of Halsted's own cases, as well as those of other observers, have proven that this result not infrequently occurs.

From a recent, and as yet unpublished, report of the results at the Johns Hopkins Hospital, Dr. Bloodgood has very kindly given me some very interesting and valuable statistics.

Of 109 cases operated upon by Halsted's typical method, with excision of the veins, there was no relapse, while in 86 cases operated upon by the same method, with the single exception that the veins were not excised, there were eight relapses or 9 per cent. Fifty-six of these cases were observed from one to nine years. Bloodgood concludes that Halsted's operation with excision of the veins will give perfect results if primary union be secured, though he admits that excision of the veins is liable to be followed by atrophy of the testis, and is, therefore, not always to be recommended. He would not excise the veins in children or in cases in which the cord had been subjected to traumatism during the dissection of the sac. The number of cases in which atrophy of the testis followed excision of the veins is not noted, but it is stated that it was only observed in those cases complicated by epididymitis. Bloodgood, therefore, reasons that as the probabilities of epididymitis would be much less after excision of the veins, if the vas and its immediate vessels are not displaced, it would be as well to leave the remainder of the cord undisturbed, and he goes on to say that "the cord reduced to such diminutive size will be as little likely to be the cause of a recurrence in the lower angle of the wound as in the upper angle when it is transplanted."

This is practically an admission that one of the leading features of the method, viz., the excision of the veins, is not always free from risk, and that another and perhaps the most important, the transplanting of the cord, is unnecessary if the veins are excised.

After all that may be said on either side in the way of theoretical considerations, the question of preference must be finally settled by practical results. If the results of the several methods are the same, that method which is the simpler in technique should have the preference.

While Halsted's method in his own hands and in the hands of his skilful colleagues at the Johns Hopkins Hospital has yielded most brilliant results, they are not equal to Bassini's personal results.

Looking at the results of other surgeons we find a much greater difference in favor of Bassini's method. The technique is far simpler, and we believe the rapidly increasing favor with which it is regarded both in Europe and America, shows that it is destined in the near future to supplant all other methods.

It is hard for us to realize that the radical cure of hernia has made such tremendous advances in a single decade. In 1890, Bull, who had faithfully tried the best of the methods then in vogue, and on a larger scale than any surgeon in America (in 134 cases) was obliged to confess that his "observations go to strengthen the conviction that all methods of radical cure will be found unsatisfactory." He did not, however, discourage further efforts to improve upon these methods of operation, but merely wished to depict the situation as it actually was. He was one of the first to subject operations for radical cure to critical tests, and to point out that the term "cure" could not rightly be applied to patients who had merely recovered from operations and had not been observed for a considerable period afterwards. To show how rapidly advances have come in this field of surgery, the ink was scarcely dry upon the valuable but gloomy paper of Bull, when Bassini's brilliant report of 251 cases, operated upon with but a single death, and all but four cases traced from a few months to four and a half years with but seven relapses, appeared. Whether or not these same good results were possible in the hands of other surgeons remained for the succeeding years to tell. Nearly a decade has now passed and few surgeons and still fewer physicians realize the tremendous revolution that has occurred in the operative treatment of hernia. Instead of an operation with a mortality of 6 per cent., alone sufficient to make the conservative surgeon hesitate to recommend it, except in cases of urgent need, and with at least a third or more nearly a half of the cases relapsing within a comparatively short time, what is the situation to-day? We find the mortality of leading operations reduced to less than 1 per cent., and the final results in large series of cases carefully traced show almost entire freedom from relapse. Instead of 30 to 50 per cent. followed by suppuration, we find 5 to 10 per cent.

You will pardon, I trust, a brief reference to personal work, which is given merely to show what anyone may accomplish, provided he gives the proper attention to the technique of the operation. Since August, 1891, I have operated upon 639 cases of hernia, divided as follows: 585 inguinal, 40 femoral, 14 umbilical and ventral. Of this number all except 60 cases have been traced. Five hundred and forty-nine cases of inguinal hernia were operated upon by Bassini's method (with 5 relapses)

with kangaroo tendon for the buried sutures. Of this number 493 cases have been traced as follows: 4 cases were sound upwards of 7 years; 4 cases, 6 to 7 years; 9 cases, 5 to 6 years; 19 cases, 4 to 5 years; 69 cases, 3 to 4 years; 91 cases, 2 to 3 years; 132 cases, 1 to 2 years; 101 cases, 6 months to 1 year; and the remainder less than 6 months. In regard to wound healing 96 per cent. of the cases operated upon by Bassini's method healed by primary union.

The only points in which I have departed from the original technique laid down by Bassini have been: first, in the substitution of chromicized kangaroo tendon for silk in the buried sutures. I have recently been told by a former assistant of Bassini, that Bassini himself has used chromicized catgut instead of silk since 1892. Second, the introduction of a suture just above the cord, and passing through the same structures as those below the cord, with a view of preventing any further separation of the tissues above the new internal ring and keeping the cord restricted to narrower limits. That these slight changes, too trivial to be called modifications, have been of advantage, the results in my series of cases would seem to prove.

Among the many questions of importance in connection with the subject of radical cure of hernia that are still unsettled, is the question of the best suture material. Silk, silver wire, catgut, kangaroo tendon, silk-worm gut, each one has had its ardent supporters. Were the question of less importance I should not attempt to discuss it at this time. Like the choice of operative methods, this question also must be finally settled by the careful observations based upon large experience, and theoretical considerations must again be placed in the background. Silk was probably used by the ancients. Catgut, introduced by Lister, was probably also first used by Lister to close a hernial wound. In the address in surgery before the British Medical Association,* Lister reported two cases of irreducible ventral and umbilical hernia upon which he had operated by opening the sac, freeing the adhesion, reducing the contents, and finally closing the freshened edges by means of closely applied interrupted sutures of prepared catgut. The dates of the operations are not stated, hence it is possible that Marcy's cases of strangulated inguinal hernia operated upon in February and March, 1871, and reported, *Boston Medical Journal*, November 16th, 1871, were really the first cases of hernia in which the buried catgut suture was used.

Czerny used catgut in his earlier cases. but later, owing to the difficulty in rendering it completely sterile, substituted silk.

Banks, whose name must always be mentioned foremost among the pioneers in operations for the cure of hernia, states† that the only point of novelty he could claim in the operation which he

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* *British Medical Journal*, August 26th, 1871, Vol. II., page 231.

† *British Medical Journal*, November 18th, 1882.

successfully performed was in the substitution of silver wire for catgut. He closed the external ring with two or three buried sutures of stout silver wire. MacEwen modified the simple catgut suture by chromicizing the gut sufficiently to maintain it in the tissue three or four weeks before absorption took place. This was a most important modification, and the suture of chromicized catgut is still to-day, we believe, with the possible exception of kangaroo tendon, the best suture for hernia operations. Shortly after 1890 silk-worm gut was introduced as the ideal buried suture, and for a time it was largely used in operations for hernia, especially in the United States. Marcy, who used catgut in his early operations, later substituted kangaroo tendon, obtaining his first supply of tendon from Australia in 1882. The advantages of kangaroo tendon over catgut seems to have been first recognized by Dr. T. M. Girdlestone, a lecturer on Surgery at the University of Melbourne. As early as 1877 he brought it to the notice of the Medical Society of Victoria, and in November, 1881, through Sir Thomas Smith, of London, he addressed a communication to the Medico-Chirurgical Society of London. In this paper* he states that the tendon suture resisted the softening influence of the tissues much longer than catgut. He prepared it, according to Lister's method of preparing catgut, in carbolic oil, but also stated that if desired, it could be further hardened by putting it in chromic acid one-half per cent. solution for seven hours. It has been largely due to the writings of Marcy that it has come to be used so largely in operations for hernia. I have personally employed it in upwards of six hundred operations for hernia, and I regard it as practically an ideal suture. The only difficulty has been in securing tendons of the proper size. If too large they remain in the tissues too long before absorption, and thus are open to the same objections that hold true of non-absorbable sutures. Split tendons should never be used as they are lacking in strength, and are of uneven calibre. Girdlestone himself in 1881 pointed out this fact. Some judgment is needed in selecting the proper size. I prefer for the deeper sutures a tendon equal in size to a number two or number three catgut, while a tendon the size of a number one catgut, or even smaller, will suffice for the closure of the aponeurosis. The cost of the tendons and the difficulty of obtaining tendons of suitable size and strength are objections of some weight. I am not sure that a carefully prepared and properly chromicized catgut will not prove nearly, if not quite, as good a suture for hernia as kangaroo tendon, and this is fortunate inasmuch as the supply of tendons is likely to prove insufficient to meet a largely increased demand.

Halsted used silk in his earlier operations, but during the past three or four years has used only silver wire. We are somewhat surprised at this change, for in his first paper, 1893, describing his

* Transactions Medico-Chirurgical Society, 1882.

method of operation, he speaks of silver wire as follows: "The use of powerful sewing materials in surgery is, it seems to me, based upon a misapprehension of pathology. If, for example, the tension is so great that wire must be used to bring the parts together, one must not expect permanent assistance from the wire, for the stitches will eventually be cut through to the extent necessary to relieve the tension." This is a concise and admirable statement of the question, and we prefer to believe it still true. The real and important objection to silk, silver wire and the whole list of non-absorbable sutures remains to be noted, and this is their liability to cause sinuses long periods after operation. This objection is not theoretical but based upon personal observation of twenty-seven patients at the Hospital for Ruptured and Crippled, as well as upon numerous reports of other observers.

In every one of these cases a sinus developed at varying periods from a few months to three years and eight months after operation. This condition of sinus formation is a serious one, inasmuch as the healing of the sinuses often requires many months, and seldom becomes permanent until the last of the offending sutures has been removed. This is not the end, for the prolonged suppuration has in most cases so weakened the canal that relapse usually follows. Thus what might have been a successful operation for the radical cure of hernia has become a complete failure owing solely to the use of a non-absorbable suture. The reasons formerly advanced by surgeons for using non-absorbable sutures were that catgut and tendon could not be satisfactorily sterilized, but with our improved methods of sterilization such reasons no longer obtain. A comparison of the statistics, as regards wound healing, of the surgeons who use catgut and those who use non-absorbable sutures will disprove the validity of such claims.

Primary wound healing was obtained in about 80 per cent. of Halsted's series of cases in which silk was used for the buried sutures, and his later statistics of 261 cases in which silk, silver wire and silk-worm gut were used, 31 suppurated or 11 per cent. These patients, we must remember, were operated upon at a hospital which enjoys a reputation above all others for the perfection of its aseptic technique. Yet the statistics of other surgeons under much less favorable operative conditions, who have used absorbable buried sutures show better results as regards primary wound healing. I mention these facts simply to show that the claim, that non-absorbable sutures are necessary to obtain the best results in primary wound healing, is entirely unfounded; therefore, there is no logical reason why the final results of the operation should be jeopardized by their use.

With the vast improvement that has taken place during the past decade in methods and results of operations for radical cure, the indications for operation have markedly increased, though in some respects the present views as to selection of cases for operation differ materially from those held ten years ago. At that time

operations were almost entirely confined to adults. This was due to the fact that some regarded the operation as more dangerous in children, and others believed that all ruptures in children could be cured by mechanical means. We now know that both these suppositions are erroneous, the results of large series of operations in children proving that the operation is less dangerous in children than in adults, and a careful study of the after history of a very large number of cases of hernia in children having proved that at least one-third of all children starting with hernia in childhood, pass on into adult life with the hernia uncured by mechanical means.

This does not warrant us in advising operation in all cases of hernia in children. At the Hospital for Ruptured and Crippled in New York, we have adopted the following rules in the selection of cases, and it will be seen at once that these are fairly conservative:

Operation is advised (1) in children over four years of age in whom a truss has been given a fair trial without marked improvement. (2) In cases complicated with fluid in the hernial sac (reducible hydrocele); in all cases of femoral hernia, since this form of hernia offers little or no hope of cure through mechanical treatment.

The practice of operating upon infants under one year, or even two or three years, is, I believe, open to serious criticism.

Umbilical hernia in infants and children should, with some exceptions, never be operated upon, for the reason that these are almost invariably cured by other means. With regard to adults it is no longer considered advisable to operate upon the very large and long irreducible hernia in patients beyond middle life. The operation is attended with grave risks and a speedy return of the hernia will almost certainly occur. The same is true of the large irreducible umbilical herniæ especially common in very stout women. While we cannot hope to cure such patients by operation, we should bear in mind that there was once a time when every one of these cases could have been operated on with a fair prospect of success, hence the importance of operating early.

Inasmuch as there is slight prospect of a cure being effected by a truss after the age of twenty years we can now advise operation in such cases, especially since it is no longer attended with appreciable risk and the prospect of a permanent cure is very great.

Operation would seldom be advised in patients over sixty years of age.

Inguinal hernia in the female has thus far received but little attention, and yet this variety of hernia yields the best results of all under operative treatment. Championniére was, I believe, the first to urge operation in these cases, and he has recently reported 49 cases. His method was to excise the round ligament along with the sac, but I believe this to be not without objections and

moreover entirely unnecessary. The sac can in every case be dissected free from the ligament, with a little care and patience.

Kelly,* of Baltimore, transplants the round ligament exactly as Halsted transplants the cord in inguinal hernia in the male, and closes the wound by Halsted's method. During the past eight years I have operated upon 100 cases of inguinal hernia in the female, and although the cases have been most carefully traced not a single relapse has been observed. The method employed was precisely similar to Bassini's operation in the male, with the transplantation of the cord omitted. The sac having been carefully dissected from the round ligament well beyond the internal ring, is then tied off and excised. The round ligament is then allowed to drop down into the lower angle of the wound, and the wound is then closed in two layers of buried sutures, according to Bassini's technique. The operation is much simpler than the one performed by Kelly, and the results thus far obtained have been perfect.

Time will permit of but the briefest reference to the radical cure of femoral hernia It is not generally recognized by the profession that the results of operation for femoral hernia are even more successful than for inguinal. Although a great variety of methods, many of them complex in technique and difficult to perform, have been proposed, the simple methods have been found to give the most satisfactory results.

Bassini has reported fifty-five cases† operated upon by his own method, without mortality, and 41 of these were traced from one to nine years without a single relapse. Of my own cases, 40 in number, Bassini's method was employed in sixteen and the method of high ligation and incision of the sac, with closure of the femoral canal by means of a purse-string suture of kangaroo tendons, was used in the remainder.

The single relapse observed occurred in a patient operated upon by Bassini's method, and it is worthy of note that this was the only case in which there was failure to secure primary union.

It would not be right to close this brief and very important sketch without saying a few words upon the final results of operations for hernia, in other words upon the permanency of the cure. Do operations, even according to the best methods, and skilfully performed, really cure the patient, or is he only temporarily relieved? The answer to the question must as yet be more or less tentative. If by a permanent cure we mean freedom from relapse, as long as the patient lives, then, of course, the time has as yet been too short for us to make dogmatic statements.

Fortunately, however, we already possess sufficient data to enable us to draw fairly accurate conclusions. The careful study of 361 cases of relapse, following various operations for inguinal and femoral hernia observed at the Hospital for Ruptured and

* "Operative Gynecology," Vol. II, p. 481.

† *Archiv. fur Klin.*, 1894.

Crippled during the past ten years, shows the important fact that the great majority of relapses occur within the first few months after operation; 64.5 per cent. occurred during the first six months and 80 per cent. during the first year. Between one and two years after operation 8.89 per cent. relapsed.

From these facts we are justified in concluding that in cases well beyond one year the chances of recurrence are very slight though in some cases relapse has been noted twenty years after operation. Under the methods practised a decade ago the percentages of relapses even during the first two years ranged between 30 and 40 per cent. Under the improved method now in use, especially Bassini's, and even with a much more careful tracing of patients this percentage has been reduced to a minimum.

Such, then, at the dawn of the twentieth century, is the present status of "The Radical Cure of Hernia." The "thousand-year-old problem of surgery" has finally been solved in the last quarter of the nineteenth century by the happy combination of brilliant genius, rare skill, and unflagging perseverance on the part of many workers in many lands. We must not forget that this combination would have been of little avail without the brilliant discoveries of Morton and Lister. So that here again in the radical cure of hernia, we find new cause to do them honor and to add to their laurels.

THE RELATION OF INSANITY TO PELVIC AND OTHER LESIONS.*

BY DR. A. T. HOBBS,
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THE quarter of the century now closing has witnessed the passing of the madhouse and the evolution of the modern hospital for mental diseases. The closely tiled buildings and grounds, the mechanical contrivances for the physical restraint of the poor lunatic, and other crude methods of treatment have gradually been abandoned. The rapid progress in medical science and surgical art has given alienists new weapons wherewith to combat the dread scourge of insanity. This disease, in the light of modern research, is not now looked upon with the hopelessness of bygone days, and much has been, and will doubtless yet be, done towards rescuing many of the hitherto hopeless unfortunates.

The discovery of antiseptic surgery by Lister gave the cue from which evolved the present principles of aseptic surgery, reducing danger to life from operation to a minimum. From the field of general surgery developed the special branch of gynecology which marked a new era in the treatment of diseases to which women are prone. It is universally conceded that immense benefit

*Read before the Detroit Medical and Library Association, November 13th, 1899.

can be conferred by operative treatment upon women who suffer from the lesions entailed by the accidents of maternity. That this phase of treatment has been neglected by asylum authorities having in their care large numbers of female lunatics, has called forth strong protests from men eminent in the profession of medicine in the old world and the new. I will quote briefly the words of some of these. More-Madden says: "The general non-recognition of utero-ovarian disorders among the insane in lunatic asylums is easily understood. Most alienists pay little attention to the study of gynecology. . . . Under such circumstances no complaint of uterine disorders being made by the patients, these diseases may unsuspectedly run their course as long as existence endures. Playfair writes that "insane women are as liable to uterine disease as sane women are, and when they have marked disease of the reproductive organs of whatever type it should be appropriately treated, whatever the condition of the mental function." Robert Barnes says that "asylum authorities should employ gynecologists to make such gynecological examinations. There was no reason why a woman in an asylum, who was suffering from a uterine complaint, should not have it attended to whether or not it made any difference to her mental condition." Skene says: "The psychologist may have a number of insane patients who suffer from uterine and ovarian diseases which may escape his notice."

Among the first to put into practical operation gynecological treatment among the insane was Manton, who, about twelve years ago, commenced to investigate along these lines in the Eastern Michigan Asylum. After some years' experience in this work, he says: "I have never operated on an insane woman, no matter to what extent demented, without some relief to her mental condition and a decided improvement in the personal comfort of the patient."

About eight years ago the late Dr. Rohé, then Superintendent of the Maryland Hospital for Insane, commenced to examine the female insane under his charge with reference to the presence or absence of pelvic disease. He states that 40 of the first 100 examined had lesions of the sexual organs that would justify operative interference. Having the courage of his convictions and a knowledge of the art of gynecology he carried out the necessary treatment. His subsequent observations led him to the conclusion that earlier operation in appropriate cases would very largely increase the proportion of recoveries."

In the beginning of the year 1895, my superintendent, Dr. Bucke, appointed a consulting gynecologist, Dr. Meek, who, in conjunction with myself, laid plans for the systematic investigation and prosecution of the work in the London Asylum. We carefully examined the histories of a large number of our female inmates, but found very little information that would guide us in making a selection of cases. We questioned many patients as to the functions of their reproductive organs, but found such procedure barren

of results owing to their deranged mental condition. Finally we selected from among these some of the young and middle-aged females who had married and borne children, and proceeded, with the aid of an anesthetic, to make systematic examinations. The results of our labors elicited the surprising fact that gynecic disease was the rule and not the exception in these cases. We have been accused of imagining lesions in these examinations; but the list which I will give is anything but imaginary, easily diagnosed, and were undoubtedly present.

We have had, during the past five years, over 800 women under observation, and have actually examined 220. Of these we found distinct lesions of the pelvic organs in 188, or 85 per cent. of those examined. This would represent that over 23 per cent. of our insane female population had some complicating lesion of the reproductive system. Glancing briefly at the pathological lesions diagnosed in the 188 women, there were found subinvoluted uteri or endometritis or both in 132 cases; some 18 women gave evidence of dysmenorrhea or menorrhagia; 62 had diseased or lacerated cervices and 5 had cervical polypi; retroverted or prolapsed uteri were present in 66 patients and 18 had new growths—16 being myomatous and 2 malignant; 33 had marked disease of the ovaries and tubes and 37 had lesions of the vagina—ranging from fistula to complete tears of the perineum. In all there were diagnosed 371 lesions in the 188 patients.

This presents a somewhat formidable list, but when it is considered that those examined were selected as possible cases of pelvic disease and numbered only one-fourth of the female patients in residence during the past five years, it will appear less startling than at first sight.

Having thus demonstrated by actual examination that much physical disease of this nature existed among our female insane, and knowing that, if similar disease existed among their sane sisters, relief would be sought for by them for such ailments, we deemed it our duty to remove these sources of physical ill-health in our charges. To do this we adopted the best gynecological methods in vogue, and have to date operated upon 173 female patients. The surgical measures carried out consisted of curettage, 131 times; trachelorrhaphy or amputation of the cervix, 53; Alexander operations, 37; ventro-suspension of the uterus, 13; perineorrhaphies, 27; ovariotomies, 22; hysterectomies, abdominal, 14; hysterectomies, vaginal, 9; myomectomies, 3; celiotomy for tubercular peritonitis, 2. This makes a total of 311 operations, some patients needing two or more operations to remedy two or more lesions found in their cases.

As a result of this work we considered that a distinct advance had been made towards restoring the physical health of these unfortunates. In this we were rarely disappointed. If this were the sole end attained we considered that much had been accomplished. But there occurred, however, mental phenomena that

even to us were remarkable in their manifestations. We witnessed, in some cases, that an immediate restoration of the mental functions followed the operation. We observed in others, a steady progression towards a normal mental condition.

That curious mental phases depended upon the presence of utero-ovarian disease had already been discussed by Regis in his "Manual of Mental Medicine," where he says, "the psychic disorders follow exactly the phases of utero-ovarian symptoms, increasing with them, or, on the other hand, improving or disappearing as the latter improved or disappeared."

Classifying the cases operated upon, under the head of the principal pelvic disease removed in each case, we get definite and valuable information as to the relative influence of the various lesions in maintaining or creating mental alienation.

1. After the removal of ovarian and tubal disease in 24 patients there occurred a return to sanity in 15, or 63 per cent., an improvement in 4, or 17 per cent.; no change in 3, or 12 per cent.; and 2, or 8 per cent., died from complicating pneumonia, one on the seventh and the other on the twelfth day succeeding operation.

2. Following 72 cases, in which disease of the lining, body or neck of the uterus was corrected: 33, or 46 per cent., recovered mentally; 14, or 19 per cent., improved; and 25, or 35 per cent., remained stationary.

3. Correcting retro-displaced and prolapsed uteri in 47 cases was followed by mental recovery in 17, or 36 per cent.; mental improvement in 12, or 26 per cent.; no change took place in the mental condition of 17, or 36 per cent.; and 1, or 2 per cent., died, death being caused from exhaustion brought on by hemorrhage, induced by patient tearing away the ligatures.

4. The extirpation of tumors malignant and benign in 20 cases was succeeded by 6 recoveries, or 30 per cent.; 8 improved, or 40 per cent,; 5 remained unimproved, or 20 per cent.; and 1, or 5 per cent., died.

5. Repairing of injuries to vagina in 10 cases brought about mental recovery in 2, or 20 per cent.; mental improvement in 3, or 30 per cent.; and 5, or 50 per cent., failed to show any change.

Summing up the 173 gynecological cases I find that, subsequent to operation, 73, or 42 per cent., recovered mentally; 41, or 24 per cent., improved mentally; 55, or 32 per cent., the mental condition remained stationary; and 4, or 2 per cent., died. From this it is evident that 114, or two-thirds of the whole number, were benefited directly or indirectly, both physically and mentally, by the surgical treatment carried out.

To illustrate the rapidity of the mental convalescence in some and the slow improvement in others, I will give briefly the history of a few cases

S. C., aged 26, admitted into the London Asylum, November 10th, 1896, suffering from chronic mania. She had spent nearly five years already in other asylums, and had been pro-

nounced a hopeless case. She had suffered physically and mentally during her menstrual periods from the time of puberty, which gradually developed into a continuous mania. Examination revealed that the left ovary had become a multilocular cyst as big as an orange. This was removed by operation on December 1st, 1896. She made an uninterrupted physical recovery. For two months after operation her mental condition showed no change, being interspersed with outbursts of maniacal violence. After the last of these attacks passed away, she appeared quite sane and has for two and a half years been perfectly well. Recently she has taken up the profession of nursing.

S. L., aged 33. When admitted in December 9th, 1897, had been insane since receiving an injury resulting in disease of the pelvic organs, caused by falling from a tree sixteen years previous to operation. She had been in an asylum before. Examination showed a pelvic mass, which, during operation, proved to be agglutinated uterus, ovaries, tubes and small intestines. The uterus and its adnexa were removed on January 11th, 1898. After the shock of operation had passed she conversed and acted quite rationally and remained well until discharged. A recent communication from her states that she still retains good mental health.

P. E., aged 40. Was committed to the asylum on December 6th, 1890. She had been an inmate for five years before an examination of the pelvic contents was made. Attention was drawn to her by the existence of menorrhagia. It was found that the uterus was several times larger than normal, and the endometrium was lined with a gelatinous deposit. Vaginal hysterectomy was done on February 18th, 1896, and she consequently made a good recovery. The maniacal mental condition slowly but surely disappeared, and she was discharged a year ago apparently as well as she was previous to her insanity.

McM. M., aged 27. Was sent to us for mental treatment on May 9th, 1895. She was a case of simple mania, having an occasional outburst of violent crying. Being unmarried she was not examined until December, 1898. Our attention was drawn to her by an attack of severe hemorrhage which issued from a tear of the labia majora made by herself. The examination revealed a tumor of the left ovary which, when removed, on March 28th, 1899, was found to be a dermoid cyst, containing well-formed teeth, hair, and seven ounces of sebaceous matter. She made the usual convalescence, and since operation has appeared perfectly well, but is still under observation although six months have elapsed since the operation.

F. A., aged 30. Was found wandering demented on the G. T. R. station platform, of London, and could give no account of herself. Later on we found that she came from Buffalo, and had been in an asylum there. She had been insane for three years. A diagnosis was made of sexual derangement, which proved to be

on operation, December 25th, 1896, an adherent uterus and ovaries bound down to the *cul-de-sac*. Separation of the adhesions, removal of the ovaries, which were badly diseased, and a ventro-suspension of the uterus were the surgical measures carried out. For two days succeeding the operation she was violently excited; but on the third appeared quite sane and remained so for six months, when she returned to her friends in Pennsylvania.

E. E., aged 44. A case of delusional mania, which, at the time of operation, was of two years' duration and apparently hopeless. Curettage of a subinvoluted uterus and repair of a lacerated cervix, on July 2nd, 1895, was followed by immediate improvement both physically and mentally. She has been home with her friends for four years now, remaining mentally well.

It is evident, from the recital of these cases, that diseases of the organs whose physiological function is the reproduction of the species, are strong factors in determining the status of the mentality of woman. It would also seem from this, that it is of the highest importance to the preservation of the mental equilibrium that the condition of the pelvic organs should be early inquired into if a woman presents premonitory symptoms indicating the onset of insanity.

It is not claimed that the removal of pelvic lesions is a panacea for all mental derangements in women. It will not be denied, however, that these diseases are powerful factors in undermining a woman's bodily health and creating a host of nervous disorders, until the brain becomes incapable of performing its normal functions. When this stage is reached she rapidly crosses the Rubicon into the domain of insanity, and lands in an asylum often a hopeless, helpless lunatic. I am willing to admit that a certain number of these women would probably have recovered their reason without removal of the complicating pelvic lesion as many were of a minor type. I am positive, however, that recovery, even in these cases, was hastened by the appropriate treatment of the genital disease.

Conceding all this, there still remains a large number of women who would never have been restored to mental soundness were it not through the instrumentality of surgical interference, and that these women would have still been reckoned among the hopeless incurables comprising the major population of London Asylum.

The fact that 52 of the 114 patients, who either recovered or improved mentally, had been insane two years or more prior to the removal of the complicating genital lesion, is in itself presumptive evidence of the relation of physical cause to mental effect.

That gynecology is of great value as an adjunct to ordinary asylum methods can be approximately determined by comparing the number of females discharged recovered and improved, during the past eight years, as published in the reports relating to this asylum. The number discharged for the last quadrennial period, during which the gynecological surgery has been added to our

armamentarium, reached the high total of 51 per cent. on the admissions, as compared with 33 per cent. for the previous four years, when no gynecological surgery existed. This represents a gain of over 50 per cent. on former methods, which gives a fair estimate of the actual value of this additional method in the treatment of the insane.

It may be urged by some that the operation itself, and the subsequent special attention, was the principal factor in the mental recovery of many of these patients; but our experience in the surgical treatment of inguinal hernia by the Bassini method in 23 cases effectually sets aside this criticism, as no mental recovery was attained in these although the surgical means employed and the subsequent nursing were parallel. It has also been claimed that the use of an anesthetic may be an aid in clearing up the clouded mental condition; but our experience succeeding 600 general anesthetizations warrants us in saying that after the immediate effect of the anesthetic passes off the mental state of these patients is neither worse nor better from its application.

It is interesting in conclusion to note the relative value the various lesions have in the production or in the maintenance of cerebral disturbance, by dividing them into three groups.

1. Utero-ovarian disease of an inflammatory origin received attention in 96 cases. The recovery rate following the elimination of these derangements was exactly 50 per cent., or 1 in 2 cases.

2. Utero-ovarian displacements being corrected in 47 cases were followed by 36 per cent. of recoveries, or 1 in 3 cases.

3. Utero-ovarian tumors and vaginal lesions of a non-inflammatory type being attended to in 30 cases were succeeded by 26 per cent. mental recoveries, or 1 in 4 cases.

From this comparison we deduce the fact that organic lesions of the inflammatory type are the most prominent factors among pelvic diseases in exciting mental estrangement, and that displaced organs rank next in importance, and tumors last in the order of causation.

As to why this is so can only be conjectured, and several plausible theories may be propounded in explanation of these phenomena; but there is one fact at least that stares us in the face and cannot be overlooked, viz., that neglect of gynecic surgery in any institution for the treatment of the insane is a serious omission, as where so many women are congregated together there must exist (as we have already shown) many cases of unsuspected and, if not investigated, untreated forms of pelvic disease.

EXTREME EMACIATION IN HYSTERIA, WITH NOTES OF A CASE.*

BY T. BEATH, B.A., M.B.(TOR.), WINNIPEG.

THERE are a few classes of cases in which our diagnosis can be conclusively confirmed without the unpleasantness (from a patient's standpoint) of an autopsy. The success of treatment in malaria and syphilis gives to the diagnosis an immobility which it would require an irresistible force to dislodge. Belonging to the same list is the case I present to you.

E. H., a young girl, born in 1873, of sound parents, was one of a healthy family numbering twelve, and at fifteen years of age was four feet nine inches high, weighing one hundred pounds. A farmer's oldest child, all her life had been spent in the country, except the two years between the ninth and eleventh of her age, when they resided in town. At fifteen she spent a winter with an aunt, at C——n, at school, suffering during that time from constipation, having only one stool in nine or ten days. At sixteen she had fits, four or five a day, and more at night, which started with twitching in the limbs and grinding of the teeth, after which the mouth frothed, the eyes rolled up and remained open and set. In this state she would lie sometimes for three hours. These continued for six weeks. Her appetite gradually left her, and she got so thin that about October 1st, 1890, eighteen mouths after the fits, she could not stand, and spent four weeks in bed, weighing, her parents say, forty-two pounds. After this she rallied some, and is now just able to walk.

Condition July, 1891: Patient eighteen years of age, very thin, and weighs, with heavy boots, clothing, hat, and shawl, 43¾ pounds, measuring as follows: Wrist, 5 in.; mid-forearm, 5 in.; elbow, 6 in.; mid-humeral, 4¼ in.; malleoli, 7½ in.; two inches above malleoli, 4⅞ in.; thickest calf, 6¾ in.: thickest thigh, 7¾ in.; chest, 22 in.; full inspiration, 23 in.; full expiration, 20¾ in.; waist, 14 in. to 15 in.; ant. sup. spines, 7¾ in.; widest part of ilia, 9 in.

She had never menstruated. Her organs were in every respect normal, exeept she complained of deafness without apparent cause. Four weeks of partial segregation and Weir Mitchell treatment raised her weight seven pounds, and gave her and her friends such confidence in her powers of recuperation that she was soon well on the way to recovery, and in a short time could walk three and a half miles alone. Some two or three years later I saw her, a plump, rosy, busy little girl, not only enjoying life herself, but, besides, permitting her family to have some comfort.

I have ventured to call attention to this case, looking to a brief consideration of three points: (1) The extreme emaciation; (2) the

* Read before the Canadian Medical Association meeting, 1899.

comparative absence of other symptoms; (3) the nosological place of mucous colitis.

1. That this is extreme emaciation I think all will admit. Osler, in connection with this disease, says: "Death may, however, follow with extreme emaciation. In a fatal case recently under my care the girl weighed only 49 pounds. No lesions were found *post mortem*." Some others speak of 70 and 54 pounds as being "wasted to the limit of wasting." This girl at fifteen weighed 100 pounds, and two and a half years later 42 pounds, as I was told by her friends, who said they thought she would weigh about that now. Before placing her on the scales I estimated her at less than 42 pounds, but with rather heavy clothing on she weighed 43¾ pounds, and yet she was not only able to ride ten miles in a lumber wagon sitting upon a backless seat, but walked upstairs to my office with very little assistance. One who has not seen such a case can hardly conceive the appearance of a skin drawn tightly over a jointed skeleton. Her frequent smile, instead of causing a bulging of the cheeks in curving, fatty waves, was marked by a broadening of the mouth and a few furrows in the flat drawn cheek. Generally a dry, harsh skin seemed to fit closely the prominent bones and ribbon-like muscles that could be felt; but the skin of the face was clear, and the eyes, though sunken, were not encircled in black. The only approach to this state that I have seen has been in marasmic infants. That the wasting is greater in this than in probably any other malady is due, I think, to the fact that it is uncomplicated by any other disease, and so the constitution can withstand and recover from such grades of malnutrition as if complicated with cancer, tuberculosis, or any form of enteric disease would prove fatal. And, besides, this trouble is more prevalent in adolescence when the elasticity, vital or resisting power, is supposed to be highest, while others marked by leanness, more particularly cancer of the esophagus or stomach, are more prone to occur in older people in whom the thread of life snaps more easily. Even among hysterics, I think this case reached a low point in nutrition without serious inconvenience owing to the absence of other hysterical symptoms. It is reasonable to think that the spasms, convulsions, prolonged total abstinence, polyuria, anuria, contractures, hyper- and an-esthesiæ, which usually figure so prominently in the history of these severe cases, must of themselves be a considerable strain on the constitution. And the history of this case seems to confirm that impression, for the amount of food assimilated must have been less than in some other cases, yet the consequent disturbance was less.

2. Among the reasons for the non-development of other special symptoms in this case were the distance from doctors (only two being consulted during the course of the disease, one calling it epilepsy and the other consumption); the mother's care being necessary for the eleven younger children, the straitened circumstances of the family, and the paucity of sympathizing friends on

the prairie. These were all anti-hysteric, but above all I believe was the fortunate mistake of a physician in diagnosing "consumption." Parental belief in this removed the case from the list of rare, curious, and wonderful diseases, and placed it in the commonplace list where anorexia, wasting and death were natural, and to be waited and watched for with due composure. It required a very hysteric case to withstand such treatment for two years. In passing, I would say that any physician who, after expressing before the patient his excessive wonder at the great peculiarities and inexpressible anomalies presented, and who, after adding by his suggestive questions, other disorders, fails to amend the condition, is equally culpable with him who treats corrosive poisoning by giving carbolic acid, or opium poisoning by administering morphine, for they invariably make the patient worse and each unsuccessful attempt makes treatment more difficult. I found this a comparatively virgin case, and so tolerably easy to manage. A month or six weeks' segregation, with massage and electricity, gave her and her parents confidence in the diagnosis, and treatment was successfully carried out by them at home.

3. Incidentally the subject of mucous colitis comes up because the tough, slimy mucus that accompanied the fecal evacuations for the first two weeks, were very characteristic of what is usually described as mucous colitis. The long, tough, slimy band, found mostly on one side of the hard feces, seemed to indicate its formation originally in the empty bowel, the descending feces pushing it to one side, whence, after becoming more or less adherent, they were voided together. I have been unable in this and other such cases to find sufficient reason for the use of the term colitis, giving it the prominence of a special law-abiding disease instead of treating it as an hysterical, anomalous, nonconformist symptom. "Colitis" should evidently be applied only where there is an inflammation, and sufficient evidence to show that there is inflammatory action in these cases seems to be wanting. Of the ordinary symptoms of inflammation all are absent except the pain and functional disturbance, and as these cases occur remarkably in hysterical women, he who, in them, bases his diagnosis of inflammation on these two symptoms, might fill textbooks with rare and evanescent inflammations in all parts of the body. Besides, the disturbance of function differs from that which usually characterizes inflammation of hollow organs, for instead of frequent thin discharges with tenesmus you have constipation and usually hard stools. The pain, unlike the more or less steady pain of inflammation, has in my experience, been severe only when attention was directed to it. In fact, one lady, who brought me a mucous band several feet long (thinking it was tapeworm), had very little pain till I was unfortunate enough to inquire particularly about it, when, of course, she had it, and she continued to have it for a few times, when it wore off. Autopsies showing this condition uncomplicated are necessarily rare; hysterics are, unfortunately,

long-lived. Osler examined two and found no lesions. Inflammatory lesions are recorded, but it is quite possible to have a genuine colitis complicate this symptom of hysteria, or in an hysterical person mistaken for the disorder we are considering: but what I am maintaining is that there is an hysterical symptom (indefinite abdominal pain associated with the discharge of long strings of mucus per anum and usually constipation) which is in no way associated with colitis. And they never should have been so associated, as such a combination, besides being misleading scientifically, does positive harm to our hysterical patients by giving them a false claim to that sympathy which should be given to any organic disease, and renders treatment much more difficult because the base of successful treatment of hysteria lies in our thorough assurance that no organic lesion exists.

A NEW EPOCH IN HOSPITAL EVOLUTION.

BY ERNEST HALL, M.D.

In the evolution of scientific medicine the hospital becomes more and more a necessity. We have seen the development of specialties followed by the erection of special hospitals, which, in the main, have been an advantage, both to the patient, the physician and the student, and in the further elaboration of therapeutics we shall meet with the necessity for additional institutions. The multiplication of agencies is, in itself, disastrous, unless some great advantage is to be derived therefrom. That such necessity exists for the development of an institution to stand midway between the General Hospital, on the one hand, and the asylum, upon the other, is apparent to those who are in touch with the present state of "psychic" therapeutics. The application of modern methods of investigation, diagnosis, and treatment to the female insane has marked an era in the progress of medicine. We no longer consider the unfortunate insane patient as "possessed," but consider the mental aberration but the psychic expression of physical disease, and such disease offers a field for closer investigation than has hitherto been afforded it.

In advocating the development of an institution specially adapted for the treatment of those who have manifested psychic abnormality, and have marked physical lesion, I do not wish to underrate the most excellent work done in many of our asylums, but to indicate a sphere of usefulness, which, while not conflicting with the General Hospital nor the asylum, would be of material assistance in the furtherance of a much-needed work. The purpose of such an institution would be (*a*) to receive and treat aggravated forms of nervous disease, and (*b*) cases of insanity in which a definite local lesion could be found.

Our present system of dealing with the advent of mental disturbance is unworthy of the intelligence of the profession and the humanitarian activities of the age. It is unjust and cruel to commit to the asylum upon the development of mental trouble, too often without even an attempt to examine for local disease. Frequently it has been my duty to disagree with my confreres in cases of recent insanity, and advocate the hospital in preference to the asylum. Not a few patients have received treatment, and have returned to their homes cured both physically and mentally. By means of such an institution the stigma attached to the asylum residence could in many cases be avoided, a matter of no small importance as long as erroneous notions concerning insanity are prevalent. Mental abnormality, as dependent upon physical diseases, must be made an axiom of practice, and not one of theory only.

In order to meet the purpose here suggested, such an institution would necessitate a different arrangement of wards to that found in our hospitals, in order that greater facilities could be had for violent cases, with conveniences for control if necessary, and as far as possible, with absence of all suggestion of forcible restraint. I would suggest that such an institution become an organic part of our hospital, under the same management, or, if a distinct institution, could be placed under similar public management. It is not necessary at this stage to enter into a discussion of the medico-surgical staff, or the requirements of nursing, but merely to indicate that with a staff composed of alienists, physicians, surgeons and gynecologists, not omitting a pathologist, a more systematic and searching inquiry could be made into this class of cases than can be done in many of our hospitals for the insane as at present constituted. With such facilities the scientific study of this class of cases would be made possible.

The treatment of the insane is the question of the day with a few, and it is one of the questions of the next decade with the many, and perhaps second only in importance to the destruction of the tubercle bacillus. I urge that such an institution as here outlined be supported in part, at least, by public funds, since so many of the cases of insanity develop among those unable to pay the rates of the private hospital and sanitarium.

As an indication of the necessity such an institution would meet, I herewith give brief histories of six patients, in connection with all of whom were suggestions of asylum residence made, and in several cases consulting physicians had advised removal to the asylum, but upon finding well-marked local lesion in each case, I recommended that they receive appropriate treatment, either at their homes or in the hospital, with the result that all are to-day with their families.

Case 1.—Mrs. D., aged 27, one child six years old, not pregnant since, convalescence from confinement slow, has not been strong since. Had delusions of her husband trying to poison her; would frequently wander from home, and be found in houses of acquaint-

ances in distant parts of the city. Examination without anesthesia showed retroversion with adhesions. Condition of appendages could not be made out. Operation: Right ovary contained cyst size of a walnut. This was removed with its tube, also left tube removed; adhesions broken up. Convalescence normal, left hospital upon eighteenth day. For a week after returning to her home had occasional desire to get up and go out without her clothes on, but since one month from operation has been perfectly normal mentally.

Case 2.—Miss H., aged 18. For several months had acted in an excitable and strange manner, worse during menstruation. For three weeks before I saw her she manifested decided mania, at times suicidal. Previous history: Had an attack of typhoid fever, with inflammation of the bowels four years ago; complained of pain in right side, increased by walking. Had leucorrhea. Examination: No hymen. Retroversion with adhesions, right ovary enlarged; general salpingitic adhesions, profuse leucorrhea. Operative treatment, March 7th: Removed appendages, with exception of part of right ovary, small par-ovarian cyst, also removed elongated and congested appendix. Result: Better for two days after operation—worse again, but improved; and at end of four weeks was perfectly sound physically and mentally.

Case 3.—Mrs. S., aged 42. Six children, three miscarriages, no history of inflammation, complained of pain in the head for eight or nine months, low spirited, with melancholia for two years. For last ten months had excitable periods three or four times a day, lasting a few weeks. Would run away from home, destroy furniture, threatened to commit suicide. Examination showed cervical tear, with enlargements and adhesions on right side. Curettage and amputation of cervix, varicocele of ligament, with bilateral inflammatory disease. I removed both appendages. Convalescence normal. Patient is much better, but still gives indication of mental abnormality. Remains at home, and assists in the house-work.

Case 4.—Mrs. G., aged 28. Married eight years, four children. After second child, six years ago, gave indications of mental trouble, and again after third child; after birth of fourth child, two years ago, she became worse, and has remained incapable ever since. Insanity of mild type, wanders from home, takes no interest in affairs; worse previous to, during and directly after, menstruation. Examination: Bilateral laceration of cervix, enlarged ovaries. Amputation of cervix. Left ovary enlarged, removed with tube. Right presented two cirrhotic nodules, was resected, and tube removed. Convalescence normal. Mental condition improved.

Case 5.—Mrs. K., aged 50, seven children. For several years suffered from pelvic pain, worse during the rainy season. Two years ago became melancholic, improved some during the summer, but melancholia returned with delusions. Examination: Perineum ruptured, adhesions excessively tender over broad ligaments. Operated on in her own house. Clitoris found adherent with retention of smegma, double varicocele of broad ligament. Append-

ages removed, and uterus ventrofixed. Convalescence normal. Mental condition normal after one month.

Case 6.—Aged 36. Never pregnant. Kindly referred by Dr. McNaughton, of Vancouver. For six years complained of pain in side. For several years she suffered from mental confusion, previous to and during menstruation. Became worse, would throw away her clothing, would scream loudly, threaten suicide, etc. She had passed through the usual ordeal of treatment for misplacement, etc., etc. Examination showed masses upon both sides of the uterus, with dense adhesions. Operated on in City Hospital, Vancouver. Right ovary enlarged, cystic, and containing mass of hard blood clot size of marble. Left ovary enlarged, stroma destroyed. Tubes disorganized by inflammation, universal adhesions. Convalescence normal. Mental condition improving, though slowly.

Other cases might be added, but sufficient evidence is submitted to suggest the desirability of a more painstaking attitude towards the subjects of insanity. No class of patients stands in such urgent necessity, and none have been so much neglected. "Insanity is a symptom, and the removal of its cause brings recovery. In no disease is proper medical treatment so needed at the beginning."

In the absence of the psychopathic hospital, we must endeavor to discharge our duty to this class of patients by utilizing the public hospitals for the mild cases, and manage the others, as best we can, in private houses.

THE SMALLPOX OUTBREAK IN ESSEX.

BY P. H. BRYCE, M.A., M.D.,
Secretary Provincial Board of Heath.

In view of the mild character of many cases of the disease which occurred in the recent smallpox outbreak in Essex, leading many persons, even physicians, to question the nature of the disease, the following facts supplied to Dr. Bryce, Secretary Provincial Board of Health, by Dr. Bryans, of Toronto, who was physician in charge of the cases in West Tilbury Township, will be of much interest:

The disease appeared in 11 houses, with 85 inmates. Of these 4 had had smallpox previously and did not take this disease. Of the balance 51 had been vaccinated, 23 had been done during the presence of the disease in the district; and of these 25 or 50 per cent. took this disease in a mild form. Thirty had never been vaccinated; and of these 26 or 86.6 took the disease more severely. Of those with well-marked old cicatrices not one person took the disease, and only two with old cicatrices took the disease, and then only in a mild form.

The following is a summary of cases by families:

Family of S.—Total members 6: Recently vaccinated, probably

previous to exposure; 4 were successful, took disease so light as hardly to be recognizable as such; 2 vaccinated unsuccessfully, took disease with moderate severity.

Family of T.—Total members 9: 3 with good old cicatrices, all escaped; 6 recently vaccinated, probably prior to exposure to disease, all took disease in a mild form. One, the mother, had one slight old cicatrix.

Family of C.—Total members 7: 1 had had smallpox in childhood, had lost an eye, and had anchylosis of elbow, he escaped; 5 with cicatrices from former vaccinations, all escaped; 1 recently vaccinated had a mild attack.

Family of D.—Total members 12: 8 with good old cicatrices, all escaped; 3 recently vaccinated had a moderate attack; 1, a baby, not vaccinated had a semi-confluent attack.

Family of J.—Total members 6: 1 with old cicatrix escaped disease; 5 not vaccinated all had the disease, not severely.

Family of G.—Total members 10: 4 with old vaccination marks escaped; of 6 not vaccinated 5 had disease with moderate severity; 1 had fever, and had probably the disease without any rash.

Family of I.—Total members 4: 1 with old mark escaped; 3 with recent vaccination had mild form of disease, exposure prior to vaccination.

Family of B.—Total members 7: 1 had previously smallpox and escaped; 2 had old cicatrices not well marked, took disease once with moderate severity; 4 not vaccinated took disease severely.

Family of M.—Total members 6: 2 with old cicatrices escaped; 4 not vaccinated took disease with moderate severity.

Family of R.—Total members 9; 1 had had smallpox previously and escaped; 3 with good cicatrices, all escaped; 5 not vaccinated took disease with moderate severity.

Family of R.—Total members 9: 1 had previously had disease and escaped; 2 had old cicatrices, 1 of these took disease mildly; 6 had been vaccinated during this outbreak and took the disease mildly. In these cases the vaccine seemed to have taken well.

Four remarkable facts stand out prominently in these statistics:

1st. The practically absolute protection of a previous attack.

2nd. The practically absolute protection of a prior vaccination where a good cicatrix is present.

3rd. The power of a recent vaccination running concurrently in the system to greatly modify the severity of the disease.

4th. That a lymph of attenuated virulence, while producing in appearance a fairly successful vaccination, fails to be more than a partial protection although very recently performed. It does not seem to have done more than modify the severity of the disease.

Orthopedic Surgery.

. . . IN CHARGE OF . . .
B. E. McKENZIE, B.A., M.B., AND H. P. H. GALLOWAY, M D.

THE TECHNIQUE OF OSTEOTOMY.

DAVIS ("Trans. Amer. Orthopedic Assn.," Vol. XII.) advances the general proposition that in linear osteotomy for the correction of deformity, the bone incision should be made on the concave and not on the convex side of the bone. Osteotomy for the correction of genu valgum is used as an illustration. If divided on the convex side a more extensive cut in the bone is required, thus increasing the danger of accidentally wounding the surrounding structures; moreover when the bone is straightened subsequently by forcible manipulation the remaining undivided concave portion is broken. When on the contrary the bone is divided on the concave aspect, the undivided portion of bone and periosteum act as a hinge when force is applied, bending rather than breaking, thus serving as a bond of union between the fragments and preventing their separation Again, the freer separation of the fragments which occurs when the bone is fully broken gives rise to the formation of an unnecessary amount of callus. Further, much greater force is necessary to complete the straightening when the section is made on the convex side, for in straightening a curved bone the convex surface is compressed and the concave surface receives all the strain; therefore if the convex surface be divided the bone is not weakened nearly as much as when the section is made on the concave surface. After partial division of the bone the author prefers to complete the straightening by the use of a special osteoclast of his own devising instead of resorting to manual manipulation as is usually done.

(The proposition advanced is correct theoretically and mechanically, and, in the case of the instanced operation—osteotomy of the femur above the condyles for knock-knee—is correct practically. But in certain cases where osteotomy is required the attempt to follow this rule would add greatly to the difficulties and dangers of the operation. In operating for bow legs it is usually sufficient to deal with the tibia only, and this bone may be safely and properly divided on the inner concave surface. But in some cases of this deformity the fibula also requires to be cut, and it can only be reached from the outside convex side unless a saw be employed in place of the osteotome. In certain cases of knock-knee also, the deformity is

due to outward bending of the tibia and fibula, and it is better to operate on these bones than to perform the usual operation above the condyles of the femur. But to divide the outer concave surface of the tibia in such cases would involve not a little risk of wounding the anterior tibial artery and nerve. Again, in the very common operation of osteotomy just below the great trochanter of the femur, for deformity following hip-disease, or due to coxa vara, few surgeons would care to court unnecessary danger and difficulty by attacking the bone on its inner surface when it can be much more safely reached from the outside. The use of an osteoclast to complete the straightening of the bone after partial division with the chisel seems to the writer of very doubtful advantage.)

H. P. H. G.

Partial Luxation of Humerus Following Acute Anterior Poliomyelitis.—Waterman ("Trans. Amer. Orthopedic Assn.," Vol. XII.) gives the history of a boy aged twelve years, who, as a result of acute anterior poliomyelitis occurring in infancy, presented well-marked facial paralysis, diminished sense of hearing in left ear, atrophic paralysis of the deltoid, teres minor, supraspinatus and infraspinatus muscles, and atrophy of the biceps and of the flexor muscles of the arm. The shoulder joint was so relaxed by the muscular paralysis that the patient could produce a forward subluxation of the head of the humerus and then reduce it spontaneously. Four illustrations accompany the article. H. P. H. G.

Laboratory Notes from the Leiter United States Army Hospital, Chickamauga, Ga.—During the past summer an excellent opportunity of testing the value of Widal's reaction was afforded by the considerable number of cases of typhoid fever treated in this hospital. Unfortunately, patients seldom reached the hospital until the second week of the disease, and hence the value of the reaction as an aid in the early diagnosis could not be tested. Dried blood, diluted with water 1 : 15, was used, and in all cases where the agglutination took place very rapidly a further dilution was made in order to eliminate the question of a possible pseudo-reaction. The test was applied on 218 different days in 177 cases. Of these, 146 were clinically diagnosed as typhoid fever, 5 of whom shortly passed from observation. Of these, 134 gave a positive reaction, 3 doubtful, the clumping not being characteristic and second specimens of blood not being obtainable, and in 4 cases the examination was negative. The reaction was not obtained in any cases not typhoid fever. Two interesting cases bearing on the question of immunity were noted, both having had typhoid fever —one fourteen months and the other two years previously. Neither gave the Widal reaction until the eighth day and both ran comparatively low temperature courses of short duration.—*Boston Med. and Surg. Jour.*

Pharmacology and Therapeutics.

IN CHARGE OF
A. J. HARRINGTON, M.D., M.R.C.S.(ENG.)

CLINICAL NOTES ON A CASE OF CARBOLIC ACID POISONING.

I WAS called by telephone to see this patient. She had been found lying on the sidewalk on Davenport Road about half a mile outside the city limits. When I got there, about thirty minutes after she had been found, I found her in an unconscious condition, with pupils contracted and quick stertorous breathing. Her face was pale, and she was in a state of deep coma. I thought at first she had had a heat-stroke, as she was lying exposed to the sun in the middle of the day, about half-past one I should judge; but, detecting a smell of carbolic acid, I soon found that each expiration was laden with the smell of that drug. On examining her mouth the inside of the lips was marked in places by the action of the drug, but there was very little on her tongue. I thought at the time from her appearance and her general condition that she could not possibly survive. However, I thought that as it was nearly an hour in all probability since she had swallowed the poison, ordinary antidotes would be utterly useless, so I gave her a hypodermic injection of sulphate of atropia, $\frac{1}{50}$ of a grain, which seemed to improve her breathing somewhat. In fifteen minutes I gave her a second injection of a like amount.

An old lady, who lived near, on picking up her parasol to keep the sun off, discovered a piece of paper on which was written, "Take me to 33 Burnfield Avenue. My son, John Keith." This thoroughly convinced me that it was a case of poisoning. We took her to her son's house, where I gave her another hypodermic of atropia. There was very little change in her condition—she still breathed stertorously and was profoundly comatose. I had given her in the meantime several small draughts of linseed tea as a demulcent. The hypodermics of atropia seemed always to make a difference in her respiratory condition for the better. Her pulse, which had ranged from 110 to 118, and which was intermittent, seemed now to become more steady. I now, at seven o'clock, prescribed 15-minim doses of spirits of ammonia aromatic in linseed tea, and ordered whiskey and white of egg mixture—the white of an egg beaten up in two-thirds of a cup of water, and

two tablespoonfuls of whiskey added, to be given frequently in teaspoonful doses. At half-past eight she vomited, and the emesis still smelled strongly of the poison. Her condition gradually assumed a restless character and she moaned two or three times. I now gave a hypodermic of morphia ¼ and atropia. She quieted down and her pulse dropped to 100 and her respirations improved. At midnight she showed signs of becoming conscious, but soon quieted down into sleep, which lasted till four o'clock, when she again became restless and was rolling from side to side until 8 a.m. next morning, when I gave her another hypodermic of morphia and she rested until three o'clock. She was still unconscious but had passed out of the comatose state. In the meantime she had still been taking the stimulants with the demulcents, and had vomited once. That night she became partially conscious, twenty-five hours after having taken the drug, and was in great pain and asked where she was. I again gave her a hypodermic of morphia, and next morning she seemed much better, her pulse was 90, and her respirations were 26. She complained of backache and difficulty of swallowing. I gave her a hypodermic of strychnia sulph., and soda water and milk as a nutriment, with a little thin gruel occasionally in small quantities. I saw her again that evening, when she had diarrhea, with dark-colored urine next day. She was quite herself, but complained of sore throat. I now asked her about the carbolic acid. She denied having taken any, but I told her that it was no use denying it and she confessed, saying she had taken an ounce. She had bought the acid at a drug store, and, at a small tin-shop on Bathurst Street, she had purchased a tin cup. She poured the acid out into the cup and took it at a draught. She immediately took a drink of water at the creek near by, threw the cup and bottle over the fence, walked 100 yards further west, and that is all she remembered. The way of taking the acid at a draught explains why the lips and tongue were so little affected by the acid, and explains the soreness at the back of the mouth. She made an uneventful recovery. Despondency was the reason for the act. A. J. H.

The Sense of Hearing in the Insane.—V. E. Larionoff tested the hearing in twenty cases of mental disease, in twelve of which there were or had been at some time auditory hallucinations. Two patients had fairly good hearing, but the others were either entirely deaf in one ear, or could hear the watch only on contact or at a distance of from one to six vershki. In nearly every case bone conduction was absent both for the watch and the tuning fork; yet nearly all could distinguish tones fairly well. The author concludes from this that there is a special musical centre in the brain, and this conclusion, he says, is confirmed by the results of his physiological and anatomical investigations.—*N. Y. Med. Rec.*

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF OCTOBER AND NOVEMBER, 1899.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

OCTOBER, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,275,000	740	1,940	10.2	8	0.04	34	0.2	4	0.02	7	0.04	88	0.5	194	1.0
99.6%	95%														

NOVEMBER, 1899.

2,125,864	640	1,501	9	12	0.07	40	0.2	6	0.03	8	0.04	40	0.2	146	0.8
93%	82%														

Population of Province 2,283,182

Registration Divisions of Province..... 777

We present herewith a miniature reproduction of the celebrated engraving of "The First Meeting of the Medical Society of London, 1773," an occasion of the greatest interest to the medical profession. The picture contains portraits of John Coakley Lettsom, William Saunders, Edward Jenner, Edward Bancroft, Robert John Thornton, Robert Hooper and other prominent English physicians.

An original steelplate engraving, now one hundred years old, is in the private collection of the Mellier Drug Company, of St. Louis, Mo., who will be pleased to mail to any physician a handsome reproduction, size 12 x 16 inches, which will prove a valuable and attractive addition to the walls of his office.

Scene from Drumtochty story in "The Bonnie Brier Bush."

The character of the bachelor Dr. McLure has become famous as the ideal of the many quiet, devoted doctors whose lives are spent in a constant sacrifice for the good of their people.

This scene represents his ride past the little church on Sunday morning, on his way home, after having saved the life of a fever patient, and the news has so enthused the usually silent Scots that they forget their Sabbath severity and give him a rousing cheer as he goes past.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

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VOL. VII. TORONTO, FEBRUARY, 1900. NO. 2.

Editorials.

TUBERCULOSIS AND ALCOHOL.

MEDICAL authorities in Europe and America are agreed that the greatest success so far achieved in the struggle against tuberculosis is due to sanatorium treatment. This method has grown rapidly in Germany, the first establishment of the kind, the People's Sanitarium in Falkestein, having been started in 1892. From that time the movement spread rapidly, the Imperial Insurance Company, the Berlin-Brandenburg Sanatoria Society, the Red Cross

Societies each establishing sanatoria. Subsequently the Central Committee for the establishment of sanatoria, with Prince Hohenlohe, the Imperial Chancellor, as president, secured more united action and notably increased the number of establishments. It is said that there are at present thirty-three sanatoria in Germany.

Before beginning so formidable an undertaking, Germany first settled the question of funds, recognizing that in this, as well as other projects, money is the sinew of war. By an Imperial law, a tax of 2 per cent. is imposed on all salaries, and the fund thus created is employed to establish a pecuniary reserve. This tax, as an insurance against sickness, is obligatory on all persons earning salaries. Owing to the enormous disposable funds created by this impost, it has been found possible to lower the rate of taxation from 2 to $1\frac{1}{2}$ per cent.

It would be rather a serious question if either political party in the Province were to propose a tax of, say 1 per cent., on the wages of all the workmen of the country, the same to be applied to the creation of a fund for establishing sanatoria in Ontario, just as has been done in Germany. Yet there does not seem to be any good reason why such a measure should not be proposed in the Legislature and, what is more, if sufficient sanatoria are to be established in Ontario, a tax of some kind will have to be raised. There is, of course, another solution of the difficulty. Our old enemy, alcohol, is a good tax-payer, and he beareth many imposts. Truth to tell, he is shrewdly suspected of being accessory to a good deal of the mischief done by tuberculosis. French statisticians, notably Jacquet, even go so far as to say that "more than four-fifths of the consumptives treated in the hospitals of Paris owe their disease to absinthe and alcohol."

Dr. Ribard writes on this subject: "Inebriates die of cirrhosis and dropsy, because alcohol has accumulated in the liver; they die of disease of the brain and insanity, because their brains contain pure alcohol; they perish from disease of the kidneys (nephritis), or from disease of the heart (arterio-sclerosis and myocarditis); but they may also die of lung disease, by contracting pulmonary consumption.

"An inebriate catches consumption because he eats too little. His dried, shriveled, burned-up stomach can no longer endure food, and the amount of nutriment he takes being insufficient, his body soon exhausts its reserve force and falls into a state of physiological poverty with the well-known consequences. He not only eats

little, but he vomits almost every morning a quantity of phlegm, which is a sure sign of the serious disorder prevailing in the functions of the stomach. Then he drinks a good deal. An inebriate is always thirsty. The hot, dry mucous membrane of the stomach craves for some kind of liquid to moisten and refresh it. On awaking, the first thing he does is to drink. He drinks between meals, and at table he drinks much and eats little. His stomach, gorged with liquids, is over-distended and paralysed. The food he eats, being mixed with an excessive quantity of liquid, is not absorbed, and this becomes a fresh source of loss of strength.

"He sleeps little and badly. His nights are not restful. His sleep is of short duration and disturbed by frightful dreams. He sees queer-looking objects, which grow to an enormous size and then become reduced to mere microscopic dimensions. He sees crowds of people all dressed in red; he sees great crowds of animals, but they are all panting for breath and covered with blood. His dreams are tinged with red, and he is fortunate, indeed, if dreams of this hue do not plague him all night. Instead of being refreshed, his nerves are in a state of constant excitement, and the sufferer, more fatigued, more weary, more stupid on awaking than when he retired, feels that it is absolutely necessary to strengthen his nerves with a dram of his favorite poison.

"Now all these sources of weakness end in tuberculosis. This form of the disease results so clearly from the debility produced by alcohol, that it presents special characteristics, which have been studied and described by Dr. Lancereaux, of Paris, and Dr. Roussel, of Geneva. Alcoholic tuberculosis develops at an age when cases due to the hereditary form of the disease have already succumbed; that is to say, from thirty-five years of age up to old age, in individuals who at birth were strong, vigorous and well-proportioned, and whose ancestors and parents were not tubercular. This disease shows a special predilection for the apex of the right lung; it advances by rapid successive attacks, in which it differs from acute tuberculosis, which marches rapidly in a continuous fashion. The attacks of alcoholic tuberculosis are frequently accompanied by hemoptysis, resulting from the pre-existing bad condition of the pulmonary vessels. Finally the disease is accompanied by grave manifestations of liver disease, assuming the form of fatty and tubercular cirrhosis."

Seeing, therefore, the causative influence of alcohol in developing one of the worst forms of tuberculosis, we feel justified in asking

our legislators to create the special fund necessary to establish sanatoria in different parts of the Province, by placing an extra tax on alcoholic beverages, more particularly whiskey? As the physicians are agreed as to the best means of struggling against the widespread evil of tuberculosis, it simply remains for the legislators to provide the ways and means. The day is gone by when sanitarians and physicians should occupy their time discussing the advantages of different models of spittoons, or in formulating Platonic resolutions in favor of the establishment of sanatoria.

J. J. C.

HYPODERMIC INJECTIONS OF MERCURY IN SYPHILIS.

THE treatment of syphilis by hypodermic injections of mercury should be the method of election and routine practice for adult patients. Inunction operates quickly and efficaciously; but is unclean, troublesome, and cannot be kept secret. The oral use of mercury is slow, uncertain and often interrupted by the occurrence of gastro-intestinal derangements. The patient who uses it gets to look upon his disease as chronic, perhaps incurable, and after a few visits to his physician, drops into the hands of the pharmacist. The hypodermic method involves a little pain, but if a suitable fluid be used, and it be rapidly injected, the pain is slight, and if antiseptic precautions are taken in the care of the needle and the cleansing of the site of the injection, neither abscess nor induration follow. The hypodermic injection of mercury produces curative results rapidly, the patient remains under his physician's control, and the pharmacist is not taken into consultation.

The composition of the mercurial fluid used in these injections is important. A 10 per cent. suspension of calomel in albolene has been used a good deal in Europe and America, but is rather painful, and being insoluble, may cause severe constitutional symptoms of mercurial poisoning long after the injections have been given. Dr. Gaucher, of Paris, recently reported the case of a syphilitic patient who suffered from marked symptoms of mercurial poisoning, traced to three injections of calomel, grains ¾ each, which had been given with intervals of five days, four months prior to his observation. This patient succumbed to mercurial poisoning. In explanation of the curious fact that the hurtful action of the drug was delayed four months, Dr. Gaucher said that when insoluble mercurial salts are injected into the tissues, their absorption takes

place in an irregular manner. The injected masses of calomel may become encysted, remaining inert a long time, and afterwards may be dissolved altogether, and in a short space of time. This is a rather serious danger, and should lead to the employment of soluble mercurial salts, which may be graduated at will, their physiological and therapeutic effects being closely watched. Another reason in favor of the latter is that certain persons exhibit a marked susceptibility to the untoward action of mercury (called idiosyncrasy for want of a better name). When soluble preparations of mercury are injected, the surgeon can watch over the elimination of the drug and be prepared to meet its untoward effects. One objection to the use of soluble mercurial salts in a case of syphilis is that it is painful; a second, that it must be repeated every day; and a third, that it is expensive.

The first objection may be removed by the use of cocaine, as in the formula of Dr. Abadie:

℞ Cyanide of mercury,
Cocaine..... āā 0.10 grams.
Distilled water..... 10 "
Sig.: 1 gram (℥ 16) once a day subcutaneously.

The inconvenience arising from a daily injection of such a soluble preparation as the above is of small moment compared to the grave dangers to which a patient is subjected after the hypodermic injection of calomel or any other insoluble salt. Fournier, of Paris, has reported remarkable cures of syphilitic glossitis from the use of calomel suspension; but it would not be reasonable on that account to select such a therapeutic method to the exclusion of soluble mercurial preparations. Besides, the daily observation of the patient offers the best security against the dangers of mercurialism.

It is for the surgeon to decide the question of expense, which need not be great when one considers the brevity of the operation.

The number of injections will depend on the progress of the disease, and will largely be a matter of judgment, according to the requirements of each individual case. Of course, when these injections are given daily, the patient can be quickly and thoroughly brought under the influence of mercury, and in eye lesions and where the nervous system is affected this practice may be deemed necessary. Usually, however, such severe effects are not sought for, and at the slightest sign of gingivitis or mercurial fetor in the

breath the injections should be stopped, only to be resumed when the danger signals have been withdrawn. Chibret says in *La Semaine Medicale*, April, 1890: "Injections of the oxycyanide of mercury are well borne, little painful and, used in over 1,000 cases, have never caused untoward effects. Six or eight injections are equivalent to an energetic treatment by means of frictions."

After two years of such treatment, and after the patient has ceased to show symptoms of syphilis for six months, he may be considered cured. The hypodermic method is also very useful in the later chronic lesions of syphilis, as an aid to the iodide of potassium. The injections should be made into the muscular tissue of the buttock, or that between the scapulæ, and the needle (1½ inches in length) should be pushed home. J. J. C.

THE CINEMATOGRAPH IN ITS RELATION TO SURGERY.

In these days it would be an ill wind that would blow the mote of blindness into the eye of man or mortal. Seeing is not only believing, but it is becoming more than ever a means of amusement and a popular method of administering knowledge. Less thought is given now to the recitation of the lines perhaps, and more to the staging of the play. The eye is constantly appealed to. What an interesting problem the diary of the medical student of to-morrow will present! What a new vocabulary!

Did the thought dawn upon any of us, as a few years ago in this city we witnessed the cinematograph reproduction of "Miss Jerry," and saw her climb the steps of the Pulitzer Building and interview Chauncey Depew, and her various meanderings about Gotham, that this young lady would have to step down and out, as by the trend of scientific investigation her place was required, and soon an interested group of scientific men would be watching intently a surgical operation being performed through the medium of a cinematograph? Theory teaches much, but add to the precept a picture, and the semblance seems to stamp the fact indelibly on the memory, but when that picture becomes animated and gives the idea of motion and detailed action its value educationally is assured. Soon we shall in the order of things see our medical colleges equipped with this new aid to knowledge, so that all the class may see what before was really only visible to those grouped near the operating surgeon.

It is not strange that it was a Frenchman who first carried out this notion of applying the cinematograph to scientific purposes. Already Prof. Doyen, the eminent surgeon, has given demonstrations of his application, and has met with encouragement and approval. May this new idea prove a great success and the mechanical medium grow into even greater perfection. May all students of surgery benefit, and never more may the newspapers end their obituary notices thus: "The operation proved highly successful; the patient died twelve hours later." W. A. Y.

A SERIOUS AMBULANCE ACCIDENT IN NEW YORK.

On Saturday evening, December 16th, one of the Harlem Hospital ambulances met with a serious mishap, which involved painful injuries to three of its occupants—two physicians and the driver; though, strange to say, the patient on the litter, being conveyed home, escaped without a scratch.

The ambulance, a heavily constructed vehicle, left the hospital at about 9 p.m. to transfer to his home an intoxicated man who was brought in during the morning with a sprained ankle. The night was somewhat misty, and the bus was making a moderate pace when Third Avenue was approached. The driver hearing no gong and seeing the way clear ahead, proceeded to cross the tracks, when all of a sudden he saw a car at full speed tearing down on him. In a instant there was a terrible crash, the ambulance having been struck in the centre by the first impact, and in the rear by the second.

Drs. Samuel Babcock and Wm. E. Muller on the back seat, unconscious of any danger, were thrown out, the latter caught under the fender of the cars and pushed fully ten yards before the car could be stopped. Dr. Babcock and the driver were both pinned under the overturned ambulance, and from this painful position were extricated with difficulty. Dr. Babcock sustained four fractured ribs and a large scalp wound. Dr. Muller had his left wrist dislocated and right arm fractured. The driver had his nose broken and his body badly bruised. The most remarkable incident was the entire escape of the patient, who seemed to have been sobered off by the violence of the collision, and suddenly recovered the use of his limbs, for when the crowd gathered and the police sought for him he had scampered home unaided.

Ambulance accidents are becoming unpleasantly frequent in New York since the Metropolitan Traction Company covered the city with its ponderous fleet of trolley cars; hence, hereafter, in order to insure safety every description of vehicle must cross the avenues with greater caution.

There have been several such accidents in New York recently. A year ago the Fordham Hospital ambulance was upset by a collision on the "Huckleberry" road, Dr. Brennan, the ambulance surgeon, being thrown from his seat and having his hip badly sprained. In the early spring the Flower Hospital ambulance was struck by a Madison Avenue car, the horse killed and the driver badly injured.

This was the third time that ambulance-surgeon Muller had been in his seat when collisions with the trolleys occurred.

These accidents will teach a lesson much needed in the future movements of ambulances. In the first place their work is being vastly overdone. Very many after injury are almost forced into them by the police, whether they are willing or not. A "bum" with a bruise or a scratch may summons an ambulance for a ride to a hospital to abuse doctors and laugh at the authorities. They have worked incalculable harm to the profession by forcing into hospitals thousands yearly who should be treated at their homes.

With their banging of gongs and galloping horses they are a nuisance and a public menace to pedestrians. There is nothing to justify or excuse the mad rush of these conveyances, for the reason that it is indeed very rarely important whether a man with a burn or a broken limb, in an epileptic fit, with a cerebral hemorrhage or an overdose of alcohol, is seen by a physician in five minutes or an hour.

In obedience to a demand from the taxpayers and the travelling public, the whole ambulance system should be reconstructed, and conducted on such methods as will commend it to citizens and visitors.

T. H. M.

THE PATHOLOGICAL SOCIETY.

On Thursday, December 28th, the Pathological Society of Toronto held its annual open meeting. There were about sixty members and guests present.

The paper of the evening was by Dr. T. Cullen, of the Johns Hopkins Hospital, Baltimore, upon the causes of uterine hemor-

rhage. Seldom has a more interesting or more practical paper been presented at the Society. The theme of the paper was practically the early diagnosis of uterine cancer, and Dr. Cullen presented to the audience the cream of his experience in the gynecological clinic in the Johns Hopkins Hospital.

He began by a discussion of the histological findings in scrapings from the normal uterus, pointing out how occasionally these may seem to simulate malignant disease where the normal structure is not thoroughly understood. From this discussion of the normal mucosa he passed to an exhaustive account of the findings under pathological conditions. Throughout the address was illustrated by a series of most beautiful drawings, which added very much to the interest of the meeting. We understand that Dr. Cullen's address was but an abstract of a larger work which is in preparation for the press. From the foretaste which has been given, pathologists and gynecologists will eagerly look forward to the completed work.

A vote of thanks to Dr. Cullen was moved by Dr. Reeve, seconded by Drs. Oldright and Cameron, and heartily endorsed by the whole meeting.

In addition to Dr. Cullen's paper, members of the Society exhibited a number of pathological specimens and microscopic slides which greatly interested those present. J. J. M.

SURGICAL WORK IN LUNATIC ASYLUMS.

We feel much pleasure in directing the attention of our readers to Dr. Hobbs' paper, which appears at page 88 of this number. Dr. Hobbs has availed himself of his opportunities in the great asylum at London, Ont., and out of 173 gynecological operations done on insane women, has noted 42 per cent. of patients who have been cured, and 24 per cent. who have been improved. The therapeutic efficacy of gynecological surgery in insanity being thus proved, we trust that the success achieved by Dr. Hobbs may induce other Canadian alienists to follow his example and report their results. Although *prima facie* gynecology would seem of the first importance, there should be good opportunities for ordinary surgery in lunatic asylums, and we suppose that when modern superintendents are appointed, surgical operations are of frequent occurrence.

Speaking broadly, anything in surgical or medical practice

which can be of service to psychiatric patients should be done, not only to cure insanity, but to relieve such diseases and physical defects as the insane may suffer from. Following out this line of thought, special operations, such as venesection, lumbar puncture, etc., may be called for to relieve the insane; and in other instances general or special operations to cure diseases, such as hydrocele, varicocele, hernia, etc., from which insane patients suffer as well as others. An oculist could also be employed to correct the errors of refraction, and in a goodly number of cases with advantage to the patients. A dentist might also relieve the gloomy prognosis of chronic insanity, and although unable to "minister to a mind diseased," could alleviate the horrors of *un dent enragé*.

J. J. C.

OUR NEW DEPARTMENT OF CLINICAL SURGERY.

It is a very great pleasure to us to be able to announce that Dr. Alexander Primrose has consented to identify himself with this journal, and will from this date take charge of the Department of Clinical Surgery. We do not hesitate to say that there is no one more favorably known to the profession of Canada, nor one better able to do ample justice to such a subject as this than Dr. Primrose, his work in connection with Toronto University for years past having been of such a character as to place him very high up in the list of scientists of Canada. We know that our readers will eagerly watch for the doctor's contributions to this new department, as he may find time to spare from his many other duties.

W. A. Y.

EDITORIAL NOTES.

Ligature of the Dorsal Vein of the Penis in Functional Impotence.—Dr. Wiley Broome reports in the *Medical Review* seven cases of this operation, six of which were collected from medical literature and one done by himself. All the cases with one exception were cured. This operation, which may be done by the aid of cocaine, is not at all dangerous and yields excellent results.

Prof. Schenk Moving.—A Vienna cable says that Prof. Samuel L. Schenk, the professed discoverer of the secret of sex, who was censured by his brother members of the faculty of the University

of Vienna for too much self-advertising has, in an interview, expressed his contempt of the Vienna University. He says he will locate either in Switzerland or America and openly practise his system.

Bareggi's Reaction to Distinguish Acute Tuberculosis from Typhoid Fever.—Twenty or thirty drops of blood taken from the patient's finger are collected in a test tube and allowed to rest for twenty-four hours. In typhoid fever the resulting clot does not contract and very little serum is formed; in tuberculosis there is a marked contraction of the clot, which is separated from the walls of the test-tube and the blood serum is quite abundant.

Euphthalium in Ophthalmoscopic Examinations.—Euphthalium, says Hermann Knapp, in *Arch. of Ophth.*, is without a rival as an aid to ophthalmoscopic examinations. Used in 10 per cent. solution one instillation dilates the pupil sufficiently in fifteen to twenty minutes. It interferes so little with accommodation that no complaint is made by the patient; the pupil is back to its normal condition in five to ten hours. The one objection to the drug is its cost, $1.75 per gramme (15 grains).

Constant Sterilization of Surgical Instruments.—Lippincott recommends a solution of formol, 20 per cent., containing 3 per cent. of borax. With this corrective the formol, he says, will not spoil the edge of a cutting instrument. Instruments may be allowed to remain in this solution for months without receiving any injury and will be always ready for use. Before using them they should be washed in sterilized water. Lippincott says that the presence of an infected instrument in absolute alcohol does not cause it to be disinfected, but if placed in the above-mentioned fluid all germs are destroyed in twenty-four hours.

Cinnamate of Soda in Tuberculosis.—For tubercular fever Bernheim and Landerer use hypodermic injections of cinnamate of soda in doses of from $\frac{1}{64}$ to $\frac{1}{12}$ grain. It increases leucocytosis and phagocytosis, placing the body in a good defensive condition, so that the bacilli of Koch no longer secrete any toxins or less of them. They have had 284 cases and a large number of cures. For tubercular fever they recommend absolute rest, good hygiene and dietetics; for bacillary fever, daily gluteal injections of cinnamate of soda; in septic fever they use salicylic acid and antipyrine; in hectic fever all these agents, with good hygiene, sometimes but only exceptionally succeed.

Extract of Suprarenal Capsule.—The extract should never be combined with any other substance; even glycerine seems to impair its astringent properties. Bates, in *Arch. of Ophth.*, insists on this point, and on its being freshly prepared by mixing five grains of the dried suprarenal capsule with one drachm of water, and filtering it after allowing it to stand for five minutes. One drop whitens the inflamed conjunctiva in a few minutes, the anemia lasting about twenty minutes. It greatly increases the anesthetic action of cocaine. It is useful not only in affections of the eye, but also to control hemorrhage after operations on the nose.

The Treatment of Paraphymosis.—In treating paraphymosis most practitioners endeavor to produce retraction of the foreskin, and failing in this manœuvre, incise the stricture. A writer in the *Gazette des Hopitaux* recommends a simple measure, which is well worthy of practice before the severer one is adopted. He advises that two to five punctures be made with a bistoury in the swollen edematous prepuce, which should then be gently kneaded during three or four minutes. An abundant flow of serum, containing some or little blood, escapes, and immediately the integuments which were swollen and ready to burst become soft and slack. A slight taxis is then successful in restoring the parts to their natural position.

Treatment of Pleurisy by Local Applications of Guaiacol.—Prosorowski, in *Gazette des Hopitaux*, reports eleven cases of pleuritic effusion treated by the local application of guaiacol on the skin of the affected side, and finds that the effusion is more rapidly absorbed than by other methods. He has never observed any bad results from his method of treatment. He generally repeats the local application five or seven times, and observed on each occasion that the temperature was lowered from 1° to 5° F. The temperature rises again in a few hours. He explains the effects produced in pleurisy: 1, by stimulation of the nerve endings, which produces an effect on the vaso-motor centres; 2, the guaiacol which is absorbed by the tissues destroys the toxins elaborated by the pleurisy.

Oh! Take This Pill.—I think that the majority of church choirs in Brooklyn are helps to churches. But some of them have got a bad habit of late—the quartet habit. They sing without the accompaniment of an organ, and thus exhibit all the blemishes of their voices. Only well trained and highly cultivated singers may

safely venture to sing without musical accompaniment. When the amateurs try the experiment they inflict needless pain upon their hearers. And the modern anthem! I recall an occasion on which the anthem ran in this way: Soprano, "Oh, take this pill—." Tenor, "Oh, t-a-ake this pill—." Contralto, "O-o-h, take this pill—" Basso, "O-o-o-h, take this pill—." All together, "Oh, take this pilgrim home."—*Brooklyn Eagle.*

Iodide of Potassium in Actinomycosis.—Dr. Prutz reports in the *Bulletin Medical* that, as a result of experiments made on animals, iodide of potassium is of no value in the diagnosis of actinomycosis. It cannot do away with the necessity for a surgical operation, but it may lessen its extent. It may improve the centre of actinomycosis to such an extent that a trifling operation may suffice instead of a severe operation, and it may render operable certain cases of abdominal actinomycosis, which otherwise would not be amenable to surgery. Although not constantly successful, iodide of potassium proves curative in the majority of cases of actinomycosis, so that its therapeutic employment in all cases of this disease may be considered proper as a matter of principle.

PERSONALS.

Dr. McNulty, late of St. Michael's Hospital, will practise in Peterboro'.

Dr. F. Lem. Grasett volunteered to go as surgeon to the second contingent.

Dr. Ernest Hall has removed from Toronto and is again settled at Victoria, B.C.

Dwyer.—On January 6th, the wife of Dr. R. J. Dwyer, No. 12 Carlton Street, of a daughter.

Dr. Alton H. Garratt has removed from Bay Street to his handsome new house at the corner of College and Teraulay streets.

Surgeon-Major Ryerson left with the second contingent for South Africa last month as representative of the Red Cross Society, and while in South Africa will inquire into the necessities for our volunteers, so that our moneys may be properly expended, and that we will not be working, as it were, in the dark. Dr. Ryerson expects to return to Canada in a couple of months.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

A ROW IN THE CHRISTIAN SCIENCE CAMP.

36 St. Joseph Street,
Toronto, *January 15th, 1900.*

Editor Canadian Journal of Medicine and Surgery.

My Dear Sir,—There is a row in the Christian Science camp. The editor of the *Washington News Letter*, once a most pronounced Christian Science advocate, is out in antagonism to the Christian Science Publishing Co., which he stigmatizes as a "religious trust which is selling God's truth at $100 a head," and is founded on "the love of money," and "must be killed out or it will choke and destroy religion." About one year and a half ago the editor made an appeal to Mrs. Eddy for support, as the paper, he said, had lost a great many subscribers because of its advocacy of Christian Science. Mrs. Eddy thereupon issued a proclamation to the faithful that they should subscribe to the paper for one year. The hierarchy at Boston seem to have had some suspicion that the editor of the *Washington News Letter* contemplated some rebellion, for when the year was up, Mrs. Eddy, in July last, published in her journal that "Christian Scientists are under no further obligations," *i.e.*, to renew the subscriptions. The result is that the editor of the *Washington News Letter* has got his back up. The whole matter is ventilated in the *Christian Science Sentinel*, of October 26th, 1899.

The Board of Management of the Christian Science Church in London, Eng., sent to Mrs. Eddy a resolution signed by W. N. Miller (Q.C. of this city), in which it is stated that the Board "directs that no copies of the *Washington News Letter* be issued from the book room, or be allowed to remain in the reading room of this church."

Mrs. Eddy's reply is excessively comical. It is as follows, leaving out a few passages :

"My Beloved Brethren,

"Pardon delay in answering your loyal letter, and living light set upon a hill. The chain of Christian unity unbroken stretches across the sea and rises upwards to the realms of incorporeal life—even the glorious beatitudes of divine love. . . . What holds us to the Christian life is the *sevenfold shield* of honesty, purity, and unselfish love. I need not say this to *thee*, for *thou* knowest the way in Christian Science.

"*Pale*, sinful sense, at work to *lift itself, on crumbling thrones of justice*, and *by pulling down its benefactors*, will tumble from this scheme into the *bottomless* abyss of self-damnation, *there* to *relinquish its league with evil.* Wide yawns the gap between this course and Christian Science; *here the connection stops.*

"God spare this plunge, *lessen its depths*, save sinners, and *fit their being* to recover its connection with its divine Principal, Love. God is blessing *thee, my* beloved *students* and *brethren* . . . and Love and good-will to man, *sweeter than a sceptre*, are enthroned now and forever.

"Lovingly yours,

"(Signed) MARY BAKER EDDY."

I wonder what effect the reading of the above message from the divine Mother Mary will have upon the well-educated, refined, aristocratic members of her church in London.

The editor of the *Washington News Letter* declares that he intends to "unchain the truth," and has published a sort of synopsis of Christian Science healing, so as to put it within the reach of the masses who cannot afford to pay $3.18 for "Science and Health." At the outset he warns his healers to be on their guard against the insidious and diabolical efforts of what he calls "Malicious Animal Magnetism," to thwart their healing power.

This Malicious Animal Magnetism he represents as a terrible agent of evil, rampaging all the earth, and especially exerting its (or his or her) power *by putting Christian Science healers to sleep*, while engaged in their pious ministrations in healing suffering humanity.

He writes from experience, for he declares that he has been attacked by this frightful Malicious Animal Magnetism many times and overwhelmed by sleep while "arguing (silently, not audibly)" with his patients to convince them that there is no such thing as sickness or evil, *unless* it may be "Malicious Animal Magnetism."

That so many thousands believe in the absurdities of Christian Science is a marvel, only to be explained by Mother Mary Baker Eddy herself, who, on pages 484, 485 of "Science and Health," says: "The *less mind* there is manifested in matter *the better.* When the *unthinking* lobster loses its claw it grows again. If the Science of Life were understood . . . then the human limb would be replaced as readily as the lobster's claw—not with an artificial limb, but with the genuine one, *i.e.*, when the Christian Scientist becomes as 'unthinking' as a lobster, then his lost leg would grow again as readily as the lobster's claw, and 'the Science of Life' would be understood." And so, of course, when the Christian Scientist became as "unthinking" as a polyp, he might be cut up into fragments, each of which would develop into a perfect Christian Scientist.

This blissful condition Rev. Mary Baker Eddy's worshippers seem to be fast approaching. J. H. R.

The Physician's Library.

BOOK REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Twenty volumes. Vols. XVII. and XVIII. New York: William Wood & Co. 1899.

Volume XVII. of "Twentieth Century Practice" is devoted to completing the section on "Infectious Diseases" and to the consideration of "Malignant New Growths." The contributors include such men as Victor Babes, of Bucharest; John T. Bowen, of Boston; William B. Coley, of New York; A. Jacobi, of New York; Edward McGuire, of Richmond, Va.; W. Hallock Park, of New York; and W. Roger Williams, of Bristol, England. "Diphtheria, its General Pathology and Bacteriology" is considered by Dr. William H. Park, of New York; while the "Symptomatology and Treatment of Diphtheria" is contributed by Dr. Jacobi, of the same city. About 120 pages are devoted to the discussion of this disease in its various phases, and the article, therefore, is very complete, and we consider that no better men could have been chosen to make the contribution to so important a work as the "Twentieth Century Practice of Medicine." We read with considerable interest what Dr. Jacobi had to say on the subject of serum-therapy in the treatment of diphtheria. He says that in the vast majority of cases of pseudo-membranous laryngitis the Klebs-Lœffler bacillus is found, and that, therefore, all of them are subjects for the use of diphtheria antitoxin. He says that since its introduction, both general and local diphtheria have been greatly benefited. It was proven, at the meeting in Washington, in May, 1897, of the American Pediatric Society, when was presented "the report of its committee on the collective investigation of the antitoxin treatment of laryngeal diphtheria in private practice," 1st, that before the use of antitoxin 90 per cent. of cases of laryngeal diphtheria required operation, while under the antitoxin only 39.21; 2nd, that the percentage figures have been reversed, formerly 27 per cent. represented the recoveries, now under antitoxin this figure represents the mortality. Dr. Dillon Brown reports the following figures of his own. He divided his intubation cases into three classes: Previous to November, 1890; from November, 1890, to September, 1894 (calomel sublimation period); from September, 1894, to April 1st, 1897 (antitoxin period). Of 442 cases of intubation without calomel sublimations and without antitoxin, 27.3 per cent. recovered. Of 295 cases of intubation with calomel sublimations, 41.6 per cent.; of 69 cases of intubation with antitoxin, 67.8 per cent. recovered. Without sublimations, 10.1 per cent.; with sublimations, 13.2 per cent.; with antitoxin, 23.3 per cent. recovered. Caillé sums up his personal experience as follows: "Tracheotomy and intubation cases, before antitoxin, 280 cases, 30 per cent. recoveries; 17 intubation cases, with antitoxin, 3 deaths." He says that over one-half of all laryngeal cases treated with antitoxin recovered without operation. Dr. Jacobi holds the view that if there be those who shoulder the responsibility of relying on a sole remedy, which frequently heals and frequently fails, to the exclusion of every other helpful medication or contrivance, they are as short-sighted as those who still refuse altogether to acknowledge the great efficacy of antitoxin in diphtheria. The fanaticism of the one should not be permitted to justify that of the other. The satisfaction at having a powerful remedy like antitoxin should not engender the nihilism which begins after the subcutaneous

injection of serum. This cannot be said too often, particularly in reference to mixed infections. It is only the bacillus part of the malady which can be counteracted by antitoxin. The mixed infections, at least, with their virulence and danger, should not be left to die without medication beyond injection and "expectant" neglect.

Dr. Victor Babes, of Bucharest, contributes an article in Volume XVII. on "Tetanus." The chapter covers between sixty and seventy pages, and is thoroughly up to date. "The General Pathology of Cancer" is from the pen of Dr. W. Roger Williams, of Bristol, England; the "Symptomatology and Treatment," that of Dr. William B. Coley, of New York. The "General Pathology of Sarcoma" is contributed also by Dr. W. Roger Williams, while again the "Symptomatology and Treatment" comes from Dr. W. B. Coley. Dr. John T. Bowen, of Boston, writes the chapter, "Malignant New Growths of the Skin," while Dr. McGuire, of Richmond, Va., devotes a very interesting thirty pages to "Malignant Diseases of the Female Organs of Generation."

Volume XVIII. is devoted to Syphilis and Leprosy, the contributors being Jonathan Hutchinson, of London; Edward Lang, of Vienna; and Prince A. Morrow, of New York. "Acquired Syphilis" is a chapter of 350 pages, and is contributed by Lang; "Inherited Syphilis," from the pen of that master-mind, Jonathan Hutchinson, and "Leprosy," written by Prince A. Morrow. In writing of the prevalence and severity of inherited syphilis, Jonathan Hutchinson states that the estimate entertained by certain sections of the public as to the prevalence of inherited syphilis is a very gross exaggeration, and he thinks that the same is probably true, though to a lesser extent, of that which obtains in the profession. Mr. Hutchinson's experience is with the patients brought to him in consultation as suffering from inherited taint, and only in quite a minority of them was he able to confirm the suspicion. The statement that syphilis is likely to become a cause of degeneracy of race is one which Mr. Hutchinson most utterly dissents from. He thinks that the disease is much less common than it was in the sixteenth century and is gradually becoming less so, and the extent to which its hereditary transmission influences the well-being of the community is exceedingly small. According to the Registrar-General's reports for England, the deaths from syphilis in children under one year old were in 1878, 219 per 100,000 living; in 1883 the number rose to 235, but it has ever since been decreasing, and in 1897 was but 170. Mr. Hutchinson considers it proved that the acquisition of syphilis by a young infant after birth may produce just the same results as its acquisition *in utero* or its sperm or germ inheritance. This has been proved by at least two authentic cases, one of Dr. Welander, of Stockholm, who states that a boy who had acquired syphilis from his nurse when three months old, at thirteen years of age had intestinal keratitis and nodes, and that his teeth were characteristic. The other case was one brought before the Paris Society of Dermatology by M. Eudlitz. The patient, now twenty-three years old, is small in stature, beardless, and with atrophied testicles. He has characteristic teeth and has been under Fournier's care for cerebral syphilis. The history is that he acquired syphilis at the age of two months from his mother, who had herself been infected by a nursling. Volume XVIII., though it does not include such a vast array of subjects as some of those preceding it, is very valuable, the contributions on syphilis being alone worth a great deal more than its price as a book.

W. A. Y.

A Manual of Surgery. By Charles Stonham, F.R.C.S.Eng., Senior Surgeon to the Westminster Hospital; Lecturer on Surgery and Clinical Surgery, and Teacher of Operative Surgery, Westminster Hospital; Surgeon to the Poplar Hospital for Accidents; Examiner in Surgery, Society of Apothecaries, London; late member of the Board of Examiners in Anatomy under the conjoint scheme for England, etc., etc. Vols. I., II., III. London: Macmillan & Co., Limited. New York: The Macmillan Co. Toronto agents: Copp, Clark & Co. 1899.

Volume I. is devoted to General Surgery, Volume II. to Injuries, and Volume III. to Regional Surgery. The volumes are small and the material in

each is well boiled down, the information being crisp and all ready for digestion. The author in his first volume devotes his space, consisting of about three hundred pages, to the consideration of such subjects as the Degenerations, Atrophy and Hypertrophy; Local Circulatory Disturbances—Inflammation, Suppuration and Abscess, Ulceration and Ulcers, Gangrene; Bacteriology; Surgical Septic and Infective Diseases (four chapters), Tumors and Cysts, and Deformities. About fifty pages of Volume I. are devoted to the subject of Deformities, such deformities as spina bifida, spina bifida occulta, spinal curvature, lordosis and kyphosis, scoliosis, crania bifida, torticollis, hare-lip and cleft palate being considered.

Volume II. is given over, as we have already stated, to Injuries. This book has been subdivided into seventeen chapters, and is made up of sections on such subjects as Antiseptic Surgery, Injuries and their Effects, Gun-shot Injuries, the Effects of Heat Corrosives, Caustics and Cold, Injuries of Blood-vessels, Injuries of Bones, Injuries of Joints, Injuries of Muscles, Nerves and Tendons, Injuries of the Upper Extremity, Injuries to the Lower Extremity, Amputations, Injuries to the Head, Injuries of the Spinal Column and Cord, Injuries of the Face, Neck and Throat, Injuries of the Eye and their effects, Injuries of the Chest and Thoracic Viscera, and Injuries of the Abdomen and Abdominal Viscera.

We venture to say that Volume III. of Mr. Stonham's work will meet with a most enthusiastic reception, as the subject of Regional Surgery is one which is always of great interest to surgeons. The author takes up Diseases of the Blood-vessels, Ligature of Arteries in Continuity, Diseases of the Lymphatic System, Diseases of Bone, Diseases of Joints, Operations on Joints, Diseases of the Nerves, Muscles, Tendon Sheaths and Bursæ, Surgical Diseases of the Brain, Spinal Column and Cord, Diseases of the Nose and Naso-Pharynx, Injuries and Diseases of the Ear, Diseases of the Larynx, Disease of the Thyroid Gland, Diseases of the Jaws, Diseases of the Lips, Cheek, Mouth and Tonsils, Diseases of the Tongue and Salivary Glands, Diseases of the Esophagus, Surgical Diseases of the Abdominal Viscera, Intestinal Obstruction, Hernia of the Abdomen, Diseases of the Rectum and Anus, Diseases of the Urinary Organs, Surgical Diseases of the Kidney, Diseases of the Bladder, Diseases of the Prostate, Diseases of the Urethra, Diseases of the Penis and Scrotum, Diseases of the Testicles, Cords and Vesiculæ Seminales, Surgical Diseases of the Female Genital Organs and Diseases of the Breasts. The book is a very complete manual of surgery, and the author has, in presenting his subject to his readers, done so not only thoroughly, but concisely, in no instance leaving his meaning obtuse, but, on the other hand, lucid and clear. The book sells at half-a-guinea and is attractively bound in red cloth, the leaves being gilt-edged.

Of course, even though divided into three volumes, the author cannot (in fact, does not) claim that his is a text-book of surgery. It is simply a manual, which must be of greater value to the student than to the surgeon. It is essentially preliminary, and even for the final year of the student would have to be further supplemented by the use of a text-book, which goes more into the details of operative work and major surgery. That, however, does not detract from the work as a manual of surgery. Mr. Stonham has placed before his readers a work which covers a large field, and, as we have already said, has so digested what he has given us in his book that it is a simple matter for anyone to glean from any special chapter or section the desired or necessary information.

Mental Affections: An Introduction to the Study of Insanity. By JOHN MACPHERSON, M.D., F.R.C.P.E. London: Macmillan & Co. 1899.

In writing upon the subject of insanity a great deal depends upon the standpoint from which the writer views the subject. The great mistake of the past and one which was made by nearly all the earlier alienists, was in regarding insanity as a separate subject, as one sometimes regards diseases of the eye or the ear. Though no branch of medicine can ever be altogether independent, the study of mental affections is, more than any other, intimately associated with

the entire body of medical doctrine; and far from affording a field for a specialist, should be carefully studied by the general practitioner. Light, indeed, is thrown upon the nature and causes of mental disease from every branch of scientific research. Psychiatry does not embrace a group of separate diseases, properly speaking, so much as a group of symptoms; and symptoms which reflect not cerebral lesions alone, not neuropathic changes only, but the distant fluctuations of unsuspected conditions, toxic and degenerative, which should be resolutely traced back step by step to their ultimate causes in obscure, often, and sometimes remote regions of the animal autonomy.

From this broader standpoint the present writer has reviewed the Psychical Symptomatology of Disease, and the work before us may be justly regarded as a useful contribution to one department of the literature of Clinical Medicine. As the knowledge of mental aberration undergoes reconstruction, and the facts already collected together, reinforced by what the future shall contribute, are readjusted upon a somewhat more scientific system, it will be found eventually, we doubt not, that the "motions of the mind," by reason of the great delicacy and sensitiveness of that organ to every physiological process, how intangible soever, will come to be regarded in time as a most useful index to many morbid processes which, while eluding at the present time the ingenuity of the section stainer, and processes purely transcendental, therefore, in the eyes of pathological dilettante, are of the utmost importance as data for the reasoning of science, and operate frequently as a grave menace to the life of the individual. At the same time the converse must never be overlooked; and in this connection a passage from one of the most philosophical of contemporary medical writers occurs to our mind. "On the other hand, ' Allbutt remarks in his section on Functional Diseases of the Heart, "it seems no less certain that perennial depressing causes, exile or bondage in an invisible Babylon may induce degenerative changes in the heart and blood-vessels, or in the kidneys."

Dr. Macpherson's work, while marking a distinct step in the study of mental disease, merely trenches, after all, upon new fields which await the scrutiny of the logical alienist. E. H. S.

A System of Medicine by Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College, Hon. Fellow Royal College of Physicians of Ireland. Vol. VIII. London: Macmillan & Co., Limited. New York: The Macmillan Co. Toronto: A. P. Watts. 1899.

Volume VIII. of Allbutt's "System of Medicine," the other volumes of which we have already taken several occasions to criticise most favorably in this journal, is devoted to a continuation of Diseases of the Nervous System, Mental Diseases, Diseases of the Skin, and concludes with an appendix on Malaria. Those diseases of the nervous system considered include Craft Palsies, Spasmodic Torticollis, Facial Spasm, Tetany, Paralysis Agitans, Migraine, Hysteria, Catalepsy, and Neurasthenia. Mental Diseases and their consideration consume over 250 pages of Volume VIII. In this section Dr. Francis Warner writes on Dull, Delicate and Nervous Children. Dr. Leonard Guthrie contributes a chapter on Night Terrors; Dr. Shuttleworth, on Idiocy and Imbecility; Dr. Mercier, on Vice, Crime and Insanity; Dr. Clouston, on Epochal Insanities; Dr. Savage, one chapter on Toxic Insanities, a second on Mania, and a third on Mental Stupor; Mr. Clinton Dent, on Insanity and Surgical Operations; Dr. Hyslop, on Alcoholic Insanity; Dr. Robert Jones, on Insanity and Epilepsy; Dr. Percy Smith, on Acute Delirium; Dr. Rayner, on Melancholia and Hypochondriasis; Dr. Urquhart, on Recurrent Insanity, and on States of Mental Weakness; Dr. Conolly Norman, on Systematized Delusional Insanity; Dr. J. Batty Tuke, on General Treatment of the Insanities; Dr. Outterson Wood, on English Law and Practice of Lunacy; and Dr. Nicholson, C.B., on Criminal Lunacy in England. It will therefore be seen that the alienist will be able to take special comfort out of this volume of Allbutt, containing, as it does, quite a full department on the subject of the keenest interest to him. The editor of

this "System" has given a complete array of mental diseases and their treatment, and the contributions are very complete and full of interest, and come from the pens of those best able to write upon the subject in its different phases. Diseases of the skin consume about five hundred pages of Volume VIII., and this section alone makes a fairly good-sized book on the subject. The contributors to this section include such well-known men as Dr. Colcott Fox, Dr. Payne, Dr. Stephen Mackenzie, Dr. Head, Dr. Pringle, Dr. P. S. Abraham, Dr. Radcliffe Crocker, Mr. M. Sheild, Mr. Malcolm Morris, and others.

Diseases of the Skin in this "System" have been divided into Superficial Diffuse Inflammations, Deep Diffuse Inflammations, Discrete Inflammations, Hypertrophic and Atrophic Conditions, Affections of the Pigmentary System, Cutaneous Hemorrhages, Affections of the Sweat Glands, Affections of the Sebaceous Glands, Affections of the Hair, Diseases of the Nails, Tuberculous Diseases, Syphiloderma, Benign Growths of the Skin, Malignant Growths of the Skin, and Parasitic Diseases of the Skin. We don't hesitate to say, after a careful perusal of this section of Volume VIII., that it is as complete a consideration of the subject in as limited a space of about five hundred small pages as we have come across anywhere. The chapters are written by experts, so that every confidence can be placed in the statements made. The appendix on Malaria, by Dr. Manson, is a fitting close to the last volume of a system on medicine, which has, and that deservedly, met with a grand reception at the hands of medical men over almost all the countries of the world.

The Modern Treatment of Wounds. By JOHN E. SUMMERS, JUN., M.D. Omaha: Medical Publishing Company. 1899.

The book before us is apparently a reprint of a series of journal articles, dealing with the treatment of wounds as a hospital surgeon, in active service and doing much railroad work, is likely to see them. It begins with a chapter on bacteria, which is too elementative, in fact too much of the kindergarten order to be of practical value. Then follows a discussion of preparatory surgical technique, in which the sterilization of the hands, the field of operation and the instruments are considered. Operations and accidental wounds, operations on infected tissues, penetrating wounds of the various body cavities, compound fractures, head injuries, and various wound complications and allied subjects are next discussed, but the practitioner who has at command any one of the recent standard works on surgical practice will find in this volume very little that is new, or that is presented in an unusually or specially striking manner. On the whole the work is hardly one which has a very distinct reason for its existence, nor can it for a moment be put into competition with such a masterly work as that of "Pilcher on Wounds," on the practical side, or such a work as "Nancred's Principles of Surgery" in its pathological aspects.

It is well printed and p blished, and such illustrations as appear are good reproductions of photographs of cases under the author's treatment.

N. A. P.

The International Medical Annual, 1900. A complete work of reference for Medical Practitioners, alphabetically arranged, and combining the features of an Annual Retrospect with those of a Medical Encyclopedia. Each volume contains entirely new matter. New York: E. B. Treat & Co., Publishers.

E. B. Treat & Co. have followed their usual practice in making this work for 1900 something more than a mere retrospect of the past year. It includes a series of articles intended to bring the readers' knowledge up to date on subjects of modern investigation, and the volume now in press contains new matter of practical interest concerning almost every known disorder.

The "Annual" is the standard reference in all parts of the world, and its value is endorsed by the medical press of every country. It is entirely owing to the consequent large circulation that the publishers find it possible to give the practitioner a handsome volume, freely illustrated in colors and in black and white, with the articles written by well-known authorities (this year's

"Annual" has forty contributors, among whom are W. Gilman Thompson, A. W. Mayo Robson, E. Hurry Fenwick, Henry P. Loomis, Thos. More Madden, Graeme M. Hammond, J. Dundas Grant, Boardman Reed, Robert Jones, A. H. Tubby, Henry Dwight Chapin, Joseph McFarland, Wm. Murrell, Robert Saundby, Samuel G. Gant, P. Watson Williams, Wm. A. Purrington, T. Colcott Fox, etc.), at a price which in comparison with other medical works is almost nominal.

Thorington. Refraction and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-glasses, etc. By JAMES THORINGTON, A.M., M.D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Surgeon at Wills' Eye Hospital. Two hundred illustrations, thirteen of which are colored. Octavo; 301 pp. $1.50 net, cloth. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street.

The Blakistons have been good enough to send me a type-written head for this review, some nine lines of which relate the different titles the author holds. If you are anxious to know what they all are spend $1.50 and find out. I like this A.M., M.D.; it's chaste and classic. I have often wondered why the American publishers did not hunt up an L.K.Q.C.P.I. and have him write a book for them. Just imagine the sale such a Chinese puzzle as that would have. *Mais revenons à nos moutons.* This is practically a fattened edition of the author's work on retinoscopy—the fattening has added considerably to both its beauty and its value. J. M. M.

A Laboratory Manual of Physiological Chemistry. By ELBERT W. ROCKWOOD, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with one colored plate and three plates of microscopic preparations. $5\frac{3}{8}$ x $7\frac{3}{4}$ inches. Pages viii—204. Extra cloth, $1.00 net. Philadelphia: The F. A. Davis Co., Publishers, 1914-16 Cherry Street.

This little text-book is one which will, no doubt, commend itself to students and physicians, on account of its conciseness. In its two hundred odd pages there is contained practically all the material which we find in many larger and more pretentious works. The experiments are clearly and briefly stated, and the explanatory paragraphs are full and up-to-date. One of the best chapters in the book is that upon the gastric juice and gastric tests, in which the physician will find a careful description of all the more recent methods. J. M. M.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. $2.50 net.

One should always read, first of all, the preface of a book—such a pleasant sight is it, to see the author make his deferential bow, and beg pardon for living. Truth to tell, I am in hope that some day I shall run across a man who shall make no apology, but say, "I wrote this book because I wanted to; it is a good book, and you'll like it." Had Edward Jackson said so I should have backed him up, for it is a good book, and you'll like it. J. M. M.

A Text-Book of Embryology for Students of Medicine. By JOHN CLEMENT HEISLER, M.D. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. Price, $2.50.

The author and publisher are to be congratulated on producing a text-book on this subject which, although fairly complete, does not attempt the minuteness of detail present in the larger works. The student who has not the time to devote to the study of Minot's large work, will welcome this book, which he will find contains the essentials of human embryology presented in a thoroughly lucid form. The illustrations have been drawn from the most recent works, and are well selected and carefully reproduced. J. M. M.

Merck's Manual of The Materia Medica. A ready reference pocket-book for the Physician and Surgeon. Germany: E. Merck, Darmstadt.

We cannot improve upon the method used on the title-page of this small book in order to describe it, more than to say that it is "a ready reference pocket-book for the Physician and Surgeon." It will be found to be an exceedingly valuable compendium of information, giving as it does in detail every new fact regarding the most modern therapeutical agents. We do not know of any other book which gives such up-to-date information along these lines, and feel that it will more than repay medical men to send for a copy, if they desire to have at their right-hand a vade mecum of invaluable facts for use in every-day work.

ANNOUNCEMENTS.

Lea's Series of Pocket Text-Books.—The volumes of this series will hereafter be bound in red cloth, heavy beveled edge boards, and also in flexible red leather with round corners and with margins trimmed to facilitate carrying in the pocket. The leather bound books will cost 50c. more than the cloth bound.

Scribner's for 1900 will include: J. M. Barrie's "Tommy and Grizel" (serial). Theodore Roosevelt's "Oliver Cromwell" (serial). Richard Harding Davis's fiction and special articles. Henry Norman's "The Russia of To-day." Articles by Walter A. Wyckoff, author of "The Workers." Short stories, by Thomas Nelson Page, Henry James, Henry van Dyke, Ernest Seton-Thompson, Edith Wharton, Octave Thanet, William Allen White. Special articles, "The Paris Exposition"; Frederic Irland's articles on sport and exploration; "Harvard Fifty Years Ago," by Senator Hoar. Notable art features, the Cromwell illustrations, by celebrated American and foreign artists; "Puvis de Chavannes," by John La Farge (illustrations in color). Special illustrative schemes (in color and in black and white) by Walter Appleton Clark, E. C. Peixotto, Henry McCarter, Dwight L. Elmendorf and others. Illustrated prospectus sent free to any address.—Charles Scribner's Sons, Publishers, New York.

The Macmillan Company beg leave to call renewed attention to their magazine, entitled *The International Monthly*, which has met with a most cordial reception. The special features of this publication are: 1. Each number contains not less than three carefully elaborated essays on important topics within a field covered by the twelve departments of the journal, which are: History, Psychology, Comparative Religion, Fine Art, (Physics, Chemistry), Medicine, Philosophy, Sociology, Literature, Industrial Art, Biology, Geology and Geography. These essays are prepared by leading scholars chosen by the editor and by his American, French, German and English advisers. Thus during each year it is promised the essay in each of the above enumerated departments of literary and scientific activity will be furnished by the most competent writers of America, Great Britain and the continent of Europe. These essays will be fundamental in character and will be designed with reference to subsequent publication in permanent form. 2. In addition to the essays each number will contain two or more articles of important contemporary interest on topics connected with the stage, the art, the music, the literary, the science, the broad political and financial issues of the day. A feature of particular interest is a review each month of the recent progress of some one branch of knowledge. This review also deals with the most important literature of the subject under discussion.

REPORTS RECEIVED.

The Congress on Tuberculosis held at Berlin, Germany, on May 24, 25 and 26, 1899. Report of the proceedings by Edward Farrell, M.D., Halifax, N.S., the Canadian delegate to the Congress. Ottawa Government Printing Bureau, 1899.

Selected Articles.

THE ETIOLOGY AND TREATMENT OF NEURASTHENIA. AN ANALYSIS OF THREE HUNDRED AND THIRTY-THREE CASES.

BY JOSEPH COLLINS, M.D.,

Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School; Visiting Physician to the City Hospital;

AND

CARLIN PHILLIPS, M.D.,

Assistant in the Clinic.

(Continued from last month.)

Hydriatic Treatment.—The value of hydriatic procedures in the treatment of neurasthenia can easily be overestimated. It is, nevertheless, perhaps the most important member of the physical measures upon which experience has taught us to rely. It owes its beneficial effect to the powerful appeal that it makes alike to the body and to the mind. It is a very important measure in aiding constructive metamorphosis by stimulating the peripheral and deep circulatory fluids; it is an important agency to excite and sedate the peripheral nerves and their central and peripheral distribution; its utilization is almost invariably accompanied by at least a temporary feeling of well-being, attendant upon reaction, which, by making an impression upon the patient's mind, helps to restore the loss of confidence and to overcome the mental depression which play such a conspicuous part in the disease. In these ways and in others it overcomes the myasthenia, it promotes the appetite for food and facilitates digestion, it contributes to repose and to slumber, and it tends to overcome the numerous paresthesiæ which constitute such a conspicuous feature of the patient's complaint. The method of utilizing water advantageously in the treatment of neurasthenia varies with the individual, and particularly with his capacity to react. It therefore varies with the same individual in different stages of the disease. There is no such thing as a stereotyped hydriatic prescription, because the instructions that may be beneficial to one patient will very likely be injurious to the next. When the conveniences of a hydriatic institution are to be had, the physician should avail himself of them, because the mode of applying water can be there more carefully and accurately done, while

the seemingly complex apparatus makes a leading appeal to the patient's mind, a result at all times to be striven for in the treatment of neurasthenia. The possession of such hydriatic apparatus is one of the most important claims for the advantages of sanatoria treatment of neurasthenia. Much benefit, however, may be obtained from the application of water with no other apparatus save the attendant's hand, a pitcher, and a sheet. The customary hydriatic procedures in the treatment of neurasthenia are cold ablutions, the dripping sheet, the spray, and the simple douche. Of these the latter is by far the most important. In order that the douche may be used successfully, it is necessary that a certain amount of pressure which can be readily graduated is available. For the average neurasthenic individual of the depressed type, the customary procedure is to prepare him for the application of the douche by a few treatments with cold ablutions (80° to 65° F.), the water being applied from the attendant's hands, accompanied by brisk friction, while the patient stands in warm water, with a cold compress about the head. If the patient reacts well after being dried and made to take lively exercise in the open air, or after having been put to bed, the cold-douche treatment may be begun. When the patient is sent to an institution, some such procedure as the following is employed: the cutaneous circulation is stimulated by encasing the patient's body up to the chin either in a hot box or in dry hot sheets for a few minutes, never up to the point of considerable perspiration, except in the irritable varieties of neurasthenia and in those accompanying the uric-acid diathesis; then the douche is employed with from ten to fifteen pounds pressure, and with water from 85° to 55° F., for from thirty to sixty seconds, and applied all over the body. The treatment is then terminated by the application of a spray (called the Fleury spray, after its French originator), with water of about the same or a little higher temperature and with equal or somewhat greater pressure. The patient is then quickly dried and reaction facilitated in the customary way. It depends entirely upon the degree and completeness of reaction what the formulary for the next treatment will be. If reaction is satisfactory, the temperature of the water is diminished on each succeeding day and the pressure somewhat increased, but never above eighteen or twenty pounds. The Scottish douche is rarely used, unless it be for the purpose of counteracting neuralgic pains and painful paresthesia. When the hydriatic treatment must be carried out at home, cold ablutions and the dripping sheet are most serviceable. The application of the former is very simple, and may be done in one of two ways. A linen sheet is wrung out of water from 75° to 65° F., and thrown about the patient, who is standing upon a warm, dry surface or in warm water; then the attendant makes friction for from thirty to ninety seconds through the sheet, which is then removed and substituted by a dry sheet, through which the frictions are kept up until the patient begins to react thoroughly. The reaction is then kept up by utilization of the

customary measures. The dripping sheet is oftentimes more serviceable than the one just described. The linen sheet is thoroughly saturated in water of the same temperature, but is not wrung out. It is applied in a similar manner after the patient has been given a brief ablution with water of the same or somewhat higher temperature, and removed after from thirty to sixty seconds, during which time friction is kept up through the sheet.

The other applications of water, such as the prolonged lukewarm or warm bath, the half-bath, the sitz-bath, the local and general cold pack, may be utilized to meet special indications. In the forms of neurasthenia characterized by erethism, mental excitement, physical unrest, continual expression of dissatisfaction, the general cold pack repeated once or twice daily, and kept on from two to four hours, is a very important and beneficial measure.

The Use of Electricity.—The rôle played by electricity in the treatment of neurasthenia is a much less important one than that of water. A discussion of the mode of its beneficial action does not seem to us necessary. The conviction seems to be increasing that its capacity for good stands largely in relationship to its effect in making a psychical appeal to the patient. Its unknown nature, its wondrous manifestations, its attributed health-restoring capacities, all tend to impress the patient with its potency for benefit. It really matters not how it acts or upon what it acts, so long as it may be utilized for the patient's benefit. Nor does it matter particularly what form of electricity is used. The form that appeals most powerfully to the patient's emotion and the form that is given from the most complicated and elaborate apparatus, according to the most studied plan and with the greatest care, is the one that will act most beneficially. It is because these essentials are best provided by the static apparatus that the application of this form of electricity seems to be more beneficial than either the faradic or galvanic. The next most useful form of electrization is the electric bath with interrupted current. We do not mean to deny that faradic and galvanic electricity are not sometimes useful in neurasthenia to assist in overcoming certain conditions, such as pain and myasthenia, by virtue of certain physical properties which they possess. For instance, general faradization, if not carried to the point of fatigue, may be of considerable assistance in tonifying the relaxed muscles. On the other hand, the rapidly interrupted current may sometimes be used advantageously to counteract pain and paresthesia, while the positive pole of the constant current is now and then useful in overcoming local pain, such as rhachialgia. The latter current should never be used about the head, because of the vertigo that it is liable to produce, which may be fastened upon by the patient as a new symptom, which, sinking into the morbid memory, will but add to his suffering. Formerly the use of faradic electricity, to produce muscular contraction and therefore make for tissue metamorphosis, was thought to be very essential in the rest cure; but it is gradually being discarded in favor of massage, passive

exercise, and graduated active exercise, although it is still used for its effect as an indirect psycho-therapeutic agency.

Rest and Exercise.—The utilization of rest, exercise, and massage in the treatment of neurasthenia will depend largely upon the individual and the type of the disease from which he suffers. In some cases, particularly in women who are run down from social, maternal, or household duties, and in those in whom neurasthenia followed some such exhausting experience as prolonged suffering, repeated illness, protracted attention to the claims and wants of others, especially when associated with anemia, more or less loss of flesh occurring either in men or women, absolute rest in bed for a number of weeks is a very essential element in the treatment. The utility of rest, combined with forced feeding and passive exercise, was first demonstrated by Dr. Weir Mitchell, and it is generally known as his rest-plan of treatment. In my own experience, it is applicable to a relatively small proportion of all neurasthenics, when carried out in a radical way. A modification of it is, to be sure, one of the essential features in the plan of treatment which we are attempting to outline. But in many cases it is more essential to prescribe some exercise that is consistent with the patient's strength and purse, in connection with a certain amount of enforced rest in bed. In beginning the treatment of a severe case of the anxious, depressed type of neurasthenia, it is, as a rule, advisable to keep the patient in bed for two or three weeks, during which time exercise necessary to combat the myasthenia and to promote tissue reconstruction is got by the use of massage and resistance movements. After such a time the patient is kept in bed from fourteen to eighteen hours out of the twenty-four, the remainder being taken up in hydriatic and electrical treatment, walking, cycling, golfing, riding, fencing, boxing, rowing, etc., whichever is most feasible and suitable to the patient. The variety of exercise that is beneficial in neurasthenia depends somewhat upon the type of the disorder, but more upon the individual. The greatest difficulty is experienced in deciding upon the exercise that is most suitable for women who, from one end of life to the other, have never tasted the sweet weariness that follows accustomed toil or whose age precludes them from indulging becomingly in the varieties of exercise that have been mentioned. For them walking is tedious and lends itself to introspection; cycling is looked upon as unfitting their years and dignity; golfing is too spectacular and violent, and so on throughout the list. It is in such cases that the patient should be sent into some new country, especially a hilly or mountainous one, whose attractions invite exploration, and to accomplish which requires walking, climbing, donkey riding, etc.

The safest criterion in the election and insistence on certain varieties of exercise is the effect that it produces, not the effect that the patient says it produces. If indulgence in exercise tends to make the patient accept the enforced rest and isolation more gracefully; to increase the appetite and facilitate the action of the

bowels; to promote a feeling of relaxation and sleep—then it is beneficial and should be continued, increased, and varied. If, on the other hand, it produces the antithesis of these, it should be curtailed or entirely stopped for a time, and enforced rest rigorously carried out, while the exercise necessary to promote tissue metamorphosis is obtained by passive movements. It is often advantageous for a patient who is isolated and who is taking a moderate rest cure, to indulge in certain occupations which help to pass the time and to distract the mind. Women should be encouraged to sew, to knit, to play cards, etc.; while men should be allowed to play billiards, backgammon, etc., providing these are not looked upon as tasks and do not cause fatigue.

Exercise in the open air, particularly when it engrosses the interest, is particularly beneficial in those whose neurasthenia is apparently the result of sedentary labor, absorbing mental occupation, worry, care, anxiety, etc. It is also very essential for those who have the uric-acid diathesis and tendency to catarrhal condition of the bowels. In the forms characterized by anxiety, vasomotor manifestations, and profound myasthenia, and in some cases with profound disturbance of the sexual sphere, it is not so valuable.

Massage is often overrated as a therapeutic aid in the treatment of neurasthenia, and perhaps sometimes underrated. It is needless to say that it has no specific virtue. Like all physical agencies that are useful in the treatment of this neurosis, it owes its beneficial effects to the aid which it gives to processes of metabolism, and to the appeal which it makes to the mind of the sufferer. The latter overshadows the former. Massage is therefore oftentimes more beneficial when it is given according to a complicated system, in which all the details are rigorously carried out, and when it is given with complicated mechanical apparatus. The usefulness of abdominal massage in overcoming constipation has already been mentioned. No definite rules can be given for the utilization of massage, for so much depends upon the individual and upon the type of his disease. Some patients, particularly men and those with anxiety type of the neurosis, do not tolerate it at all; while others, women, depressed neurasthenics, and fat individuals, enjoy it and frequently sleep after a séance. Massage operators aver that the efficacy of massage depends largely upon the manner of its application and upon the system with which it is utilized. Their view of the matter is an interested and a biased one. It may be used advantageously to overcome constipation, stiffness and soreness of the joints and extremities, and myasthenia. Insomnia can sometimes be combated by the use of vigorous massage of the entire body for an hour or more just before retiring, or by downward stroking of the sides and back of the neck. This procedure seems to influence the intracranial circulation by facilitating the flow of blood in the veins.

Climato-therapy.—The influence of climate in the treatment of neurasthenia is not very great. The neurasthenic patient recovers

more quickly in a climate that allows him to spend comfortably a portion of the time in the open air, and to have plenty of this important element in a pure state in his living apartment. A climate that is so moist and warm that it tends to general enervation, or one that is so cold and dry that it requires the expenditure of a great deal of energy to withstand it, is contraindicated. The benefit that is obtained from change of climate is more often due to the new environment, with its absence of strife and distressing annoyances, and the attention to diet, rest, exercise, and hygienic rules which it entails, than to climatic conditions. A sojourn in the hills or mountains for those on whom the seaside or plain palls on account of long association, is beneficial, and *vice versa* for the same reasons. The influence of beautiful scenery, inspiring surroundings, and the wonders of nature may impress upon the self-centred patient how trivial and uninteresting he is when compared with it all, and help to lift him out of himself. Like everything else in the treatment of neurasthenia, very much depends upon the individual.

The question of travel for neurasthenic patients is not a very difficult one to decide. For the majority it is impracticable, and the minority are better off without it. For one neurasthenic patient who is benefited by aimless "travelling for health," ten are injured by it.

Drugs in the Treatment of Neurasthenia.—The medicinal treatment of neurasthenia is the least important duty of the physician, though it is oftentimes difficult to convince patients of this, and physicians as well. Symptom medicines are invaluable to meet certain indications, and disease medicines assist in overcoming certain organic conditions, such as anemia; but, despite this, the majority of neurasthenic patients would reach the goal of recovery just as surely and speedily if drugs were entirely discarded. At least it may truthfully be said that it is oftentimes as important to forbid the patient all medication as it is to prescribe it. Neurologists will probably agree that the majority of patients that come to them for advice and treatment, after they have been under treatment by their family physician, or desultorily by a number of physicians, are so thoroughly bromidized that this state demands treatment. I do not mean to say that the bromide salts are not oftentimes of signal benefit to relieve certain distressing symptoms, such as head pressure, cardiac palpitation, abdominal fluttering, etc.; but should never be given continuously, promiscuously, or without special indication. Although the pharmacopeia contains no drug that has special virtue to "strengthen" the nervous system, or to restore its equilibrium when the balance is once disturbed, there are certain drugs which, by creating an appetite, facilitating digestion and assimilation, forcing oxidation and elimination, and by adding to the constituents of the blood, are serviceable when such indications exist. The simple bitters and stomachics can be given for a short time with considerable confidence that they will cause a greater relish for food. Arsenic,

nux-vomica and quinine oftentimes not only create a greater desire for food, but seem to have a general tonifying effect, particularly upon the muscular system. Cod liver oil, which is supposed to be of especial service in the treatment of neurasthenia, has no other virtue than to provide an easily digested carbonaceous food. In anemic individuals suitable preparations of iron and arsenic, alternated or combined with the simple bitters, must be given. In administering iron it should not be forgotten that it has been proven experimentally that the quantity which the blood will take up stands in no relationship to the amount administered. Not infrequently beneficial effects follow repeated inhalation of oxygen. This procedure not only affords a general fillip to the system, but has a desirable mental effect. In the use of arsenic and quinine, it is well to bear in mind that the former has a tendency to produce disturbance of the stomach and intestines, which may have a very distressing mental effect upon the patient; while the latter, if given in other than very small doses, is sure to produce ringing in the ears and vertigo, which the patient will be likely to interpret as most disastrous manifestations. The administration of aphrodisiacs in sexual neurasthenia is conceived in error, and should never be tried except for the mental effects. Drugs that make powerful appeal to the mind by insulting one of the special senses—such as valerian, for example, particularly when given with assurance that it will be beneficial—are oftentimes of great comfort to the patient, and thereby useful. Hypnotics are rarely necessary when rest and exercise, hydrotherapy and massage are properly and faithfully utilized. It is oftentimes necessary to give one of the simpler hypnotics a few times, in order to secure sleep until the physical measures just mentioned have time to become effective. They should be given in sufficiently large doses to make their effect decided, so that the patient may be impressed that a medium is readily at hand that can easily cope with the insomnia.

Local Treatment.—Reference has already been made to the absurdity of depending upon local treatment alone to cure neurasthenia, whether such treatment be directed to the prostate, the eye muscles, the uterus, or the stomach. All of these organs are very liable to reveal considerable disorder of function in neurasthenia, but so does every other tissue or organ of the body in varying degree. They all need treatment, and thus it is that hydriatic procedure, diet, rest and exercise, etc., have proven to be the really trustworthy therapeutic agencies. Occasionally neurasthenia occurs sequentially to rectal abscess and fistula, to enlarged prostate, to prolonged and excessive use of ill-balanced eye muscles. In every such case the effort should be made to rid the patient of these evident infirmities. This is tantamount to saying that the casual treatment of neurasthenia should never be neglected. If such treatment suffices, the patient and the physician have good cause for mutual congratulation. Unfortunately, however, it does not suffice in about 90 per cent. of the cases, and it is unwise to

neglect the ninety merely to reach the ten. The picture is more enticing when reversed.

The Plan.—From all that has been said, it will be readily inferred that the physician himself is the important measure in the treatment of this neurosis. His success in handling neurasthenia will stand in direct relationship to his capacity to inspire and maintain the confidence of his patient, and the thoroughness and persistence with which he utilizes the physical measures for the improvement of general nutrition of the body and the mind that we have detailed. To carry such treatment to a successful issue requires great individualization, tact, perseverance, and, above all, strict personal attention to detail. As a rule, it may be said that a patient with neurasthenia should be examined and treated with the same attention to detail as a patient with typhoid fever or endocarditis. That such careful examination and methodical treatment encompass a cure, in part or largely through their appeal to the mind of the individual, in no way detracts from them as tangible therapeutic measures. On the contrary, there is all the more reason for their utilization. The more often they are employed the less frequent will be the reports of cures by Christian scientists, faith curists, negro hoodoos, incantation men, and other fakirs and mystery mongers.

The physician who has neither the time nor the inclination to devote such attention and care to the neurasthenic patient should have the frankness and moral courage so to inform the patient, and not keep him on by promises of recovery which he cannot back up with results; while the physician who feels that he is discharging his duty by telling the patient that his sufferings are "imaginary," "mental," "trifling," can scarcely be said to have the modern conception of this neurosis, and is therefore unfitted to deal with it. The plan of treatment being so important in neurasthenia, the physician and the patient will have to carry it out at home. If it is not entirely so, it had better not be attempted, as each failure adds jeopardy to the patient's chance of recovery. No compromise should be made with the patient or with the family relative to his conformation to all the conditions on which treatment is undertaken. If the patient is unwilling to do all that the physician assures him is necessary, he soon comes to view the matter in a different light when told that the treatment of his case cannot otherwise be undertaken. Occasionally it will be necessary to avail one's self of the facilities of sanatoria which are fully equipped with hydriatic and mechanical devices for the application of massage, passive exercise, etc. There is much to be said against, and but little in favor of such institutions. As a general rule, it may be said that institutional treatment is inimical to individualization, and should rarely be recommended.—*Med. Record.*

LECTURE ON THE CINEMATOGRAPH AND THE TEACHING OF SURGERY.*

BY PROF. E. DOYEN, M.D., PARIS.†

ANIMATED photographs were at first used as an entertainment. Only short scenes were represented, a row of films, eighteen metres in length, system Lumière or Edison, at the rate of sixteen pictures a second, lasted exactly one minute. The vibration of the picture, always fatiguing to the eye of the spectator, became intolerable when it was a matter of reproducing complicated subjects. Only in the open air or in a special studio could good negatives be obtained. I endeavored several years ago to apply the cinematograph to surgical instruction, but was unable to overcome the difficulties referred to; the films were not sufficiently sensitive for the most powerful lens then in use, and it was impossible to obtain satisfactory results with the apparatus of those days except in the case of a movement of very short duration. Operations on the dead body could easily have been photographed in the open air, but would have had no scientific interest or value. In all medical schools there is an amphitheatre for operative surgery where the use of instruments and technical details may be demonstrated by the professor at each lecture. The students practise on the dead body the ligature of arteries and the various sutures. It is even possible to imitate the flow of blood by connecting the aorta and the carotid with a raised recipient filled with colored water. These practical experiments give but a faint idea of true surgery. An operation on a dead body can never be compared to an amputation on the living subject. With a view, therefore, to supplementing this notoriously defective system of instruction, we must have recourse to the cinematograph and reproduce real operations. With the projections we shall be able to explain to our students the difference which exists between real and operative surgery, which has been rightly termed the "Surgery of the Dead."

If we go on to consider such operations as the removal of the kidney, of the thyroid gland, ovariotomy, hysterectomy, the difference becomes more marked, and operative surgery can only be considered the complement of topographical anatomy. The student will study, for instance, the different layers he must traverse to reach the kidney, its exact position, and the relations of its blood vessels. In thyroidectomy or hysterectomy he will appreciate the relations of the thyroid gland, the great vessels of the neck, and

* Paper and demonstration given before the British Gynecological Society, December 14th, 1899

† Translation by A. A. Warden, M.D.Glasg. (Clinical Assistant to Professor Doyen).

the laryngeal nerves, the exact position of the ureter, the hypogastric, uterine, and vesical arteries. A certain amount of practice can even be obtained in the surgery of the stomach and of the intestines, and familiarity with the blood supply of these organs, the action of the various clamps, and the arrangement of the sutures. But operative surgery will never confer the gift of operating.

Do our books fill the gap thus left? Certainly not. The most detailed descriptions, the best diagrams or photographs of the various steps of an operation are inadequate. Take, for instance, the clamping of the broad ligaments in vaginal hysterectomy. Surgeons who have not seen my crushing forceps used cannot grasp its simplicity, and photographs of the various steps of the operation can only give them a partial idea. On the other hand, with the cinematograph we can make hundreds of people follow in one minute what a whole lecture could not make clear to a limited number of students. Thus there is accumulating in medicine a mass of more or less useless literature, descriptive and critical, and due appreciation of new methods becomes impossible. Surgeons themselves cannot derive the full benefit of visits to foreign schools and only fifteen or twenty of those who assist at an important operation can follow with profit the details of the technique. The safety of the patient demands that spectators should be at a certain distance; the hands of the surgeon and his assistant conceal part of the field of operation, and the surgeon himself may be the only one to follow some of the more delicate steps. It is not sufficient to follow the operation, as it were, second-hand; but the author of the technique, the master himself, must be seen at work. The surgeon is judged by his work, and no text-books, however well illustrated, can sufficiently express his personality.

It has been with the object of completing our means of teaching the art of surgery that I have been led to study and employ the cinematograph.

The first operations taken by the cinematograph were a craniectomy and an abdominal hysterectomy. The films thus obtained by M. Clément Maurice with the Lumière apparatus, and by Monsieur Parnaland with his own invention, were sufficiently clear to show the value of the method. The first demonstration of the teaching of surgery by the cinematograph took place at the annual meeting of the British Medical Association in Edinburgh in July, 1898. Three films where shown:

1. The manipulation of my operating table.
2. An abdominal hysterectomy.
3. A craniectomy.

This first demonstration was conclusive and so satisfied the physicians present that I was asked to give a second the next day.

And yet no one has shown a satisfactory series of films since July, 1898, the date of my first demonstration in Edinburgh, the priority of which has never been disputed. Since the meeting of

the British Medical Association in Edinburgh I have added to my collection of films, which will be issued in a few months for use in teaching faculties. With each film a full description, clinical and pathological, will be supplied. Surgeons who may wish to use the cinematograph themselves, either in operating or teaching, are welcome to ask us for any details which may spare them errors and expense. Students abroad may thus follow the technique of the great surgeons of the world, they can compare methods and follow the progress of surgery. The historical value of such a possession can hardly be denied. What do we know of the prowess of Maisonneuve, of Langenbeck, of Billroth or of Péan, who yet are, it may be said, of our own day? How valuable could we follow now with the cinematograph those marvellously rapid operations without chloroform, on the field of battle or in the operative theatre, and see once more the courage of the patient and the skill of the operator!

The progress of surgery is such that what is good to-day is improved upon to-morrow. Thanks, however, to the cinematograph, the future surgeons will be better able to judge of the real progress accomplished.

Finally, and perhaps most unexpectedly, the surgeon himself may greatly benefit by the cinematograph. When I saw for the first time one of my operations reproduced on the screen, I recognized how far short I fell of my ideal. Many details of technique that had seemed satisfactory I now saw to be defective, and the cinematograph has thus enabled me considerably to correct and simplify, and to perfect my operative technique. My first films also show the personal progress that I have been able to make. Our films are so clear that the most delicate manœuvres, such as the suture of the pelvic peritoneum in abdominal hysterectomy, and the opening of the dura mater in craniectomy, may be followed.

You will notice that each operation is done methodically. The patient, the movements of whose respiration can be followed on the screen, is anesthetised: there is no suffering, and the loss of blood is trifling. The surgeon is calm; his movements are precise and calculated. When he makes a muscular effort you can see his biceps harden, his face contract, his whole body place itself in the most favorable position. The cinematograph registers the whole scene as it takes place, faithfully, rapidly, and in detail. Each step can thus be studied, analysed, criticised. The surgeon can assist at and calmly study his own operations. He can see in his face the anxiety of the moment. He can see himself superintending the respiration of the patient under the anesthetic. He can see his whole mind set upon the successful execution of some movement, and almost anticipate the smile of relief that follows its accomplishment. Unnecessary gestures and movements may be noted and avoided. The cinematograph has more than once almost startled me in the resemblance I could not help seeing between myself and my late father, Dr. Octave Doyen.

The hours that I have spent with M. Clement Maurice and my assistants studying my technique with the help of the cinematograph, have been of the greatest interest and value.

It is a help to all. The anesthetist is surprised to see himself nervous and anxious at one moment, calm and attentive at another. The nurses who bring the thermo-cautery or who lift away the tumor removed, may see any clumsy movement and correct it.

There seems further no objection to the presence of non-medical spectators at these demonstrations. Members of ambulance societies are in the habit of going to hospital, attending operations, performing dressings, and learning the principles of antiseptic surgery. Such persons may thus acquire knowledge which will be useful in the case of accidents before medical aid can be obtained.

The cinematograph could usefully be added to such a course of training, and first aid students might learn from it the duties they might later be called upon themselves to perform. And is it altogether to be regretted now, when all classes of society follow with such keen interest the progress of surgery, that the non-medical public should have other means of getting information than inaccurate descriptions? We hardly think so, and those who have seen operations as shown by the cinematograph admit that the calmness of the surgeon, the precision of his movements, the perfection of the operative technique, tend to diminish rather than increase the unknown horrors of an operation. The public will also learn this fact, that an operation as performed by one surgeon is a vastly different matter from the same operation by a different surgeon. There has been too great a tendency to believe that with the triumphs of anesthesia and antisepsis, surgery has become all but inoffensive. It is time to protest against this error. The success of an operation depends much more upon the skill of the operator than upon the antiseptic care, which every surgeon ought of course to exercise. The cinematograph, registering the details of an operation with the proper speed and perfect accuracy, will show of what mettle the surgeon is made.

If you wish to publish a new procedure, add to your description several rolls of cinematographic films. Each original procedure can thus be compared with methods already published.

Those of my operations are short, and we have heard it said that the cinematograph "went more quickly than the operation." Turn the instrument yourself and you will see upon how little knowledge this criticism is based. If you turn too slowly the movement of the surgeon and his assistants are manifestly slowed; if you turn too quickly there is a rapidity and haste of movement that at once strikes the eye. The operation is only well reproduced if you turn at the same rate as at the moment of operating. My operations, therefore, last just as long upon the screen as during their actual performance. Most of them are not complete; the toilette of the field of operation, the completion of the sutures offer little interest, and would uselessly add to the difficulty and expense

of the photographs. The projection that lasts five minutes appears extremely long. Thanks to the cinematograph, I have been able to defend myself against the reproach that I operated too quickly. Study several of the operations on the screen, and you will see that there is no haste and no useless movement, and that the operation is brief because the technique is simple and precise. Operate simply and you will operate successfully. "The more hurry the less speed," in French *hatez-vous lentement.*

The progress of surgery during the last few years has been due far more to the improvement of technique than to the observance of the laws of antisepsis. The cinematograph will prove this better than descriptions or photographs. I have devoted myself for many years to the improvement of surgical instruments, to the simplification of hemostasis and operative technique generally, and the cinematograph will make these methods known and permit colleagues abroad to judge of their value. I shall be sufficiently rewarded if I succeed in proving that operations should be simplified to the greatest possible extent, and every useless manœuvre, every tedious and lengthy procedure, as far as possible suppressed. In your hysterectomies, in your pylorectomies, in your craniectomies, adopt my technique, and you will be able to finish in a few minutes operations that by other methods will take you half an hour or hours. The loss of blood, which used to be considerable, will be trifling, the shock will be insignificant, the recovery rapid. What can the patient gain from a long operation? It would be judicious to operate slowly if slowness were one of the chief factors of success, whereas the contrary is the case. I have never sacrificed safety to speed. I operate at the same time more simply and more surely, whereas the prolongation of an operation adds to the gravity of the prognosis. Do in an hour hysterectomy that I would do in ten minutes, and in those fifty ninutes you will tax the patient's strength by useless movements that may irreparably compromise the vitality of the tissues. The prolongation of the anesthesia, the increase of the loss of blood, will further injure your patients, and it is thus that operations of two or three hours' duration have such a heavy mortality. "Time is Life."

Lectures with the cinematograph should be given as follows:

1. The professor briefly describes the operation, and shows upon the screen projections of the principal instruments to be used.

2. Each step of the operation is shown in detail by fixed projections either of photographs or drawings.

3. When the technique is thoroughly understood the operation itself is shown on the cinematograph.

If the professor has films of several cases of the same operation, he demonstrates the technique and the necessary modifications in the different cases.

The students need no longer crowd the operative theatres as more or less unintelligent onlookers. They will be obliged to follow a preparatory course before they actually assist the surgeon. They

will then be able to draw profit from his lectures and from the operations themselves.

The application of the cinematograph may be considered one of the greatest improvements in the teaching of operative surgery, since it will make known throughout the world the best methods and the surest means of saving part of humanity from suffering and from death.

Intubation in Private Practice.—Dr. Castelain, of Lille, says in *La Presse Medicale*, that some physicians are afraid to perform intubation, unless an assistant can be left to take care of the patient. He claims to have done the operation many times in hospital and in private practice, and to have never had obstruction or the sudden expulsion of a tube. He favors intubation without a permanent watch being kept over the patient, because the danger from intubation is always less than that from tracheotomy. He always leaves a thread attached to the tube.

Typhoid Fever and Diphtheria in Chicago.—In the Chicago *Monthly Bulletin* for June, we notice that the influence of an excessive precipitation in Chicago is shown by comparing the deaths from typhoid fever during two periods: 296 in the wet season of 1898 and 163 in the dry season of 1899, an excess of 81.6 per cent. in the former over the latter period. The periods chosen were the first six months of 1898 and the first six months of 1899. A rainfall of more than three-fourths of an inch in twenty-four hours is sufficient to flush out the sewers discharging into Lake Michigan, and frequently to turn the current of the foul river lakeward. This is followed by a rise of the sanitary-quality-of-the-water line into "pathogenic" spaces, more or less promptly according to the direction and velocity of the wind. This rise is followed, usually within a week, by a rise in the line of deaths from the acute intestinal diseases, and within three weeks by a rise in the typhoid fever death-line, which latter culminates in from five to seven weeks, unless fresh pollution occurs. Referring to diphtheria, Newsholme's conclusions are said to be corroborated, to wit, that an epidemic of this disease never originates or continues in a wet year (*i.e.*, a year in which the total annual rainfall is materially above the average amount), unless this wet year follows two or more dry years immediately preceding it;"— conversely, "that epidemics of diphtheria for which accurate data are available, have all originated in dry years, *i.e.*, in years in which the total annual rainfall is materially below the average amount." Newsholme attributes these results to the stage of the ground-water as affected by rainfall, low ground-water favoring and high ground-water retarding the epidemic spread of diphtheria, by favoring or retarding the "transition of the diphtheria bacillus from the saprophytic to the parasitic stage of life," and not, in any part, to an aerial convection of the contagion through a dry atmosphere.

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ADDRESS TO THE ASSOCIATION OF EXECUTIVE HEALTH OFFICERS OF ONTARIO.*

BY J. J. CASSIDY, M.D., PRESIDENT.

Gentlemen of the Association:

LADIES AND GENTLEMEN,—Of the many subjects which claim the attention of an association such as ours, some have already been discussed at former meetings and some are comparatively new. One of the more important of the latter is the regular daily medical inspection of schools. As you know, according to Schedule B of the Public Health Act, it is the duty of a medical health officer of a municipality, if thought advisable by the Board of School Trustees, to act as Medical Inspector of Schools, as well as advisory officer in matters pertaining to school hygiene. When a contagious disease, such as scarlet fever or diphtheria, attacks a number of pupils attending a school, the services of the Medical Health Officer are called into requisition by the Board of School Trustees in order that the necessary preventive measures, such as isolation and disinfection, may be put into operation. As a matter of fact, in our own city schools at least, the services of the Medical Health Officer are frequently required, and the reason of this is based on a fact, which has long been known to exist, namely, that the public school is always a centre of infection towards which the contagious diseases, incident to child-life, make their way from infected homes and from which these same diseases are carried to

* Delivered at annual meeting in London, Ont., September 13th, 1899.

other homes. The truth of this observation has been frequently shown in Ontario. Our present system of placarding houses in which the infectious diseases are located is only partially beneficial, even when all cases are promptly reported by the attending physician, for the reason that in most cases a physician is not called to attend the patient till after it has been possible for many of the child's mates to have become infected. The symptoms presented by numerous cases of diphtheria or scarlet fever, in the absence of an alarming epidemic, are not regarded by parents at the onset as being of sufficient importance to warrant seeking medical aid, or even detention of the child from school; so that for days, perhaps, the child is permitted to cough, sneeze, or expectorate the germs freely, while coming in close contact with other children. The like is true of other infectious diseases to which children are especially subject.

In order to prevent the spread of the disease from the school, daily medical inspection of schools has been introduced. Work of this kind has been in operation for many years in the city of Brussels, Belgium. The city of Boston in 1894, at a time when an epidemic of diphtheria showed the authorities that a medical reform must be adopted, began a system of daily medical examination of the schools. Dr. Durgin, Chairman of the Board of Health, thus describes the methods by which the work is carried out in that city:

"The Board of Health divided the city into fifty districts, giving an average of about four school-houses and fourteen hundred pupils to each district. No difficulty was experienced in finding well-qualified and discreet physicians who would undertake the duties prescribed; and the Board selected and appointed one physician for each district, His duty was to make a visit to each master's school daily, soon after the beginning of the morning session. The master received from each of the teachers in his district early reports as to the appearance of illness in any pupil in his charge. These reports are given to the visiting physician, who at once examines the reported children and makes a record of his diagnosis and action in books furnished by the Board of Health for that purpose, and kept in the custody of the master. If the visiting physician finds the child too ill, from any cause, to remain at school, he advises the teacher to send the child home for the observation and care of his parents and family physician. If illness is from a contagious disease, the child is ordered home and the case reported to the Board of Health. The disposition of the sick child while at home, and the proper isolation of cases where contagious diseases develop in such children, as well as giving them a warrant for returning to school, depend principally upon the school inspector."

During the first two months 4,962 pupils were examined and 564 were found to be too ill to remain at school. Of these 212 suffered from contagious diseases, 43 being cases of diphtheria.

Diseases of the throat were found in 1,749 pupils. Diseases of the eye, ear and spine were frequent. In 1896 the number of infectious diseases was found to be less in the Boston schools than in 1894.

New York began this system early in 1897. Of 8,960 pupils examined, 1,156 were too ill to remain at school. Among these there were of

Specific infectious diseases	267	cases.
Oral and respiratory diseases	3,934	"
Ear "	66	"
Eye "	382	"
Skin "	628	"
Miscellaneous "	3,687	"
Diphtheria "	26	"
Scarlet fever "	8	"
Measles "	59	"
Mumps "	54	"
Chickenpox "	35	"
Croup "	71	"
Tuberculosis "	3	"

From these figures you will see the importance of daily medical inspection in connection with public schools. Its protective value to the public, and to school children in particular, cannot be overestimated. All know how easily the contagious diseases of children may be and are disseminated, and how indifferent parents and guardians are to the protection of their own children, or others, from infectious and contagious diseases in school and at home. All know how these diseases in children lead to after results, impaired vision or hearing, chronic throat difficulties, diseased nervous systems, by which their effectiveness as pupils and students is impaired, and that thereby the work of education is seriously hindered, if it is not in the case of many pupils rendered altogether impossible.

As it would be impossible for a medical health officer in a large city to undertake school inspection in addition to his other duties, a sufficient number of local physicians should be engaged by the School Board for the purpose. In small towns and rural municipalities, school inspection could be done by the medical health officer of the municipality, a reasonable salary being paid him for this addition to his usual duties.

You will naturally expect me to say something of consumption, a disease which, for the people of most civilized countries, has, in the light of recent investigation and statistics, become a subject of the greatest interest and importance. It will not be necessary to discuss here the current opinions held by physicians of the influence of Koch's bacillus in the causation of that disease. It seems, however, that while the agency of the bacillus as a causative factor of consumption is proved, it is equally true that this microbe can only do harm to persons whose vital resistance is low, and who thus offer a suitable soil for its growth. It is recognized to-day, more clearly

than in the past, that the successful treatment of consumption is largely preventive in character, and in a great number of cases it must be applied to the infant and young child. Children are in their lives much like plants, and thrive or fade according to the amount of intelligent care devoted to them. In their early years, sunshine, fresh air, warm clothing, and wholesome food are necessary to their very existence, and if these are generously provided, children grow up to become healthy men and women. Too often, however, their early lives are passed in crowded, unclean, damp houses; their food is insufficient or unnutritious; their surroundings are most hurtful and anti-hygienic, so that it is no wonder if they become rachitic, scrofulous, anemic, particularly if, as is too often the case, there is an alcoholic or other taint on the side of at least one of the parents. Their emaciated and weakened bodies, wanting in proper vitality, form a favorable and fruitful soil for the propagation of the dreaded bacillus, of which they ultimately become the victims. Any agency, private or public, that will provide sunlight, pure air, wholesome food, and last, but by no means least, intelligent medical care for the children of the poor, will assist in remedying the formidable evils from which they suffer at the dawn of life, and will, therefore, lessen the number of children who now pay a large tribute to the devouring monster, consumption. You are all aware that the success of the experiment at Nordrach, in Germany, has powerfully illuminated the somewhat gloomy chapter of the treatment of consumption. Up to a very short time ago, climate was claimed to exercise a very important curative influence—to be, in fact, the curative influence in the successful treatment of this disease. Other things being equal, climate has a good deal to do with the case.

Dr. Douty, writing from Davos to the *British Medical Journal*, asks: "Why has phthisis been unknown in the Engadine and Pratigau? The natives live on miserable food, shut up for months and months in the most insanitary of houses, yet they have not succumbed. They have had chances of being infected during the last thirty years. In Sicily, again, the natives live under almost worse conditions, with a very meagre diet, and yet the percentage of deaths from phthisis is one of the lowest in the world. The crofters of Scotland, the laborers of Devonshire, the peasants of Ireland, live under similar but better conditions than the natives of the Engadine and Pratigau, but they are decimated by tuberculosis in some form or other. How is this? It is climate that has to answer for it, and to take them away from their damp climate is the first essential in making a cure. Altitude is an important factor in climatic treatment, owing largely to the diminished atmospheric pressure and increased activity of the respiratory organs. Altitude is sometimes associated with treatment of phthisis by cold air and ozone, as practised at Engadine, but it can act quite independently of cold."

The editor of the *Indian Lancet* records an interesting observa-

tion made by a French physician, Dr. Bertillon, some twenty years ago, that pulmonary phthisis ceased making progress, and that the symptoms disappeared, if the patient went to reside at a mean altitude between the level of the sea and the line of perpetual snow; but that the symptoms would immediately return with increased violence if he or she went down again to a lower level. He adds: "This theory has been amply verified, and the two following cases, which have never yet been published, fully confirm it. A French gentleman of fortune, after leading a very fast life in Paris, abandoning himself to every kind of excess, fell ill and soon displayed the characteristic signs of lung disease—cough, with hemoptysis, nocturnal sweats, loss of appetite, general debility, etc. He consulted Dr. Bertillon, who told him plainly that if he did remain in Paris he was a lost man, and that his only chance was to take up his residence at Briancon, an important fortified town in the French Alps, which fulfils exactly the conditions of altitude above mentioned. He obeyed his physician, and in a very short time all the symptoms of his malady disappeared, he recovered his appetite and good spirits, and remained a whole year at Briancon in excellent health. But in an evil hour, thinking himself cured, he returned to Paris, and once more joined again in the pleasures of his former associates. But his old enemy was anxiously waiting for him; he began to cough as he had done before, and to spit blood, and had to take to his bed, from which he never rose again, dying after a short illness.

"The second case is that of an Irish lady who died in the city of Mexico six months ago, aged sixty-eight, having always to the last enjoyed the best of health, although when she went there twenty years ago she was deeply consumptive, her left lung being almost obliterated, and herself given up as lost. But being a sensible woman, and having heard of the altitude theory, and that the city of Mexico fulfilled the conditions of being at the mean altitude between the snow line and the sea level, she wisely remained there until she died of general debility and break up."

In considering climate we consider *altitude*, the *dryness of the air*, the amount of sunshine, the diathermancy of the sun's rays, the absence of fog or mist, the absence of wind, etc., and we must think what effect all these may have on the blood pressure, and, therefore, on the secretions of skin and kidneys, the pace and depth of respiration, the secretions of the tubes and of cavities; on the blood-making tissues, on the blood itself, and on the tubercle bacilli themselves. Are all these conditions and effects the same in England as they are 6,000 feet up in the Alps? Certainly not; and yet other things taken together have more to do with the cure of consumption than climate. As Dr. Douty says:

"Fresh air is good and desirable in every disease; but fresh air will not cure consumption. You cannot get fat on fresh air. Overfeeding is the secret of the success of Nordrach—overfeeding, combined with the excellent judgment shown by Dr. Walther in

the constant supervision of his patients, and the careful gradation of their daily exercise, whereby the heart is kept strong and healthy, and is able to maintain a brisk circulation through the somewhat obstructed channels of the pulmonary vessels, and the dropsical condition of the lungs induced by too much of the recumbent position in the *Liegehalle* of sanatoria is avoided. Thus not only the lungs, but all the organs, including the heart and all other muscles, are brought into the condition of a gently but well-trained athlete, and the patients are ready to return to their work, if not absolutely cured, at any rate in such good condition that they can continue to be useful members of society, and if they have the sense to continue the high-feeding and careful exercise can eventually live down their lung lesion and lose it. In too many cases it is a weakened heart that prevents their doing so. I believe that the same excellent principles of treatment, carried out in a totally different climate, will give even better results than those of Nordrach, though they are, I believe, the best yet produced; *but they are produced by the system of treatment in spite of and not because of the climate.* Hundreds of cases have been cured at Davos without any rational system of treatment whatever."

There is good reason to believe, therefore, that even in countries where the winter climate is severe, as in Canada, curative results can be obtained in the treatment of consumption. For instance, the following report from the Gravenhurst Sanatorium is encouraging:

MEDICAL REPORT FOR THE YEAR ENDING SEPTEMBER 30TH, 1898.

Number of patients treated during the year	116
" at Sanatorium still under treatment	33
" to be reported on	83
Of these 83 patients there were	
Discharged apparently cured	12
" with disease arrested	33
" with marked improvement	29
" unimproved	11
" failed	8

Of the 83 patients 64 gained in weight an average of $11\frac{1}{3}$ pounds. Average stay of each patient 98 days.

The altitude of the Gravenhurst Sanatorium is only about 850 feet above sea level. In British Columbia, however, residence can be obtained at stations having a suitable elevation above the sea, and, when climatic advantages such as they possess are made to cooperate with overfeeding, regulated exercise, and medical supervision, the curative results to be looked for in Canadian sanatoria ought to be of the most satisfactory character.

An important feature in the prevention of consumption is the isolation of cases of the disease in sanatoria, thereby removing a considerable source of peril from healthy people, who meet them in all the vocations of life, and more particularly their families, who live in the same homes with them. The number of cases of tuberculosis in Ontario is, however, so large (probably 10,000, there

having been 3,154 deaths in this province in 1897) that the housing of all the cases in sanatoria, even if they were all willing to go to these resorts, cannot be realized. Disinfection of sputa, cleaning and disinfection of rooms occupied by phthisical cases, are, however, better understood and more thoroughly performed than they were a few years ago; and intelligent people find it necessary to practise these sanitary methods in order to protect themselves when their phthisical friends are housed with them. The proposal to make phthisis a notifiable disease has been received with indifference by some sanitarians and with positive objections by others. Some of the arguments used by the latter would indicate a misconception of the real object and scope of notification in phthisis. Neither placarding nor quarantine are required in phthisis, although antagonists of notification have imagined that they should be employed in that disease as well as in diphtheria. Such a view is quite erroneous. As Landouzy, of Paris, says: "It is not the consumptive's body, nor his breath, nor his perspiration, nor the air of the room he inhabits which is harmful; the danger resides in the expectoration. After the departure or death of a consumptive patient, the contagion of the disease remains and survives, since his expectoration, which may have fallen in some corner of the room he occupied, dries up, mingles with the dust, and the bacilli contained in it are ready when a favorable opportunity and a suitable culture ground are provided to renew the process of tuberculization in some other person. The use of spittoons should be enforced in the treatment of all cases of phthisis, and further, spittoons made of some combustible material should be provided in all places private and public, and the people, young and old, should be taught to use them."

I do not think that a tubercular patient, whose sputa are disinfected, whose person and clothing are kept clean, and whose room is tidy, well ventilated, and exposed to sunlight, is a source of contagion to his neighbors. In such a case quarantine is not necessary, and to place a placard on the door would be foolish. I support notification in phthisis because it is the first and necessary step to obtain accurate knowledge of the phthisical infective centres in a municipality. A physician attending a case of phthisis should provide for the prevention of contagion, and should consider the interest of the other members of the patient's family. If physicians practised prevention in cases of consumption as carefully as they do in cases of small-pox and diphtheria, the proximate and distant results of their efforts would lessen the mortality from consumption more than the best conceived medical treatment. If people are careless or imprudent in dealing with tubercular cases, it is largely due to the fact that they have not been fully instructed. Such instruction should be given by physicians, who would then be exercising one of the noblest functions of their office—that of guardians of the public health.

It may be opportune to remind you, at this point, that the

danger of inoculation with dust from rooms that have been occupied by consumptives may be obviated if the windows are regularly opened. The antiseptic properties of fresh air are very great, and if consumptives are taught to open the windows they will help themselves and lessen the danger of infecting healthy people with their disease. Probably the best way of disinfecting apartments is by exposing them to the sun, after a thorough cleaning; but where this method is impracticable formaldehyde gas disinfection or some similar method may be used. It is my pleasing duty to observe that Dr. Hutchinson, Medical Health Officer for London, has referred in his last report to the duties and responsibilities resting on citizens and municipalities in opposing the spread of consumption. His advice is timely, and if his recommendations are put into practice there will be a considerable decrease in the prevalence of consumption in this city. As Dr. Hutchinson says, "In London during 1897, out of 472 deaths 99 were from consumption, and 54 from diphtheria, scarlet fever and typhoid fever, so that about twice as many died in this city from consumption as from all other infectious diseases. Two deaths in every nine were from consumption."

There are several different opinions as to the money value of a human life. The State Legislature of Illinois places it at $5,000. Assuming that a valuation of $1,000 is correct, the loss of 99 lives per annum from consumption in this city means a direct money loss of $99,000, and an indirect loss of a very large sum besides. The financial method of appreciating the value of sanitary methods and legislation naturally appeals to every intellect, and moreover, places the loss resulting from preventable diseases in a peculiarly effective way. That all must die at some time is a truism; but statistics show that, with proper precautions, the evil day may be delayed. Lives now sacrificed to contagious disease might be preserved, if not to the scriptural "threescore and ten years," at least for many years of useful and productive activity. In 1896, in a report to the Provincial Board of Health on the hygiene of the Canadian railways, I referred at considerable length to the upholstering of seats in railway carriages, and also to the current methods of cleaning floors, seats, etc., in carriages. Preference was expressed for seats trimmed with leather instead of the ordinary well-stuffed seat covered with plush, because plush is retentive of dust, and the dust of railway carriages is rich in bacteria. Quotations were made from a report of bacteriological work done in Germany by Drs. Petri, Kolb and Freidrich, who examined specimens of dust taken from railway carriages, and found numerous pathogenic bacteria. In nearly half the cases there was obvious evidence that the passengers had expectorated on the floors of the carriages, and the presence of the Koch bacillus was proved. In fourth-class carriages, which were unclean and rarely washed, the number of bacteria in dust swept up from one square metre of the floor surface was estimated at 12,624; in the

third-class, 5,481; and the first-class, 2,533. On the seats and partitions there were fewer bacteria, from 2,646 to 29: and the ceiling was almost free. It was quite evident, therefore, that to keep the floors, seats, and partitions of a railway carriage clean is to practically ensure its freedom from pathogenic germs, which gravitate with the dust toward the floor of the carriage. Now leather-trimmed seats can be washed with hot water and soap, and then wiped with a sterilized cloth, thus ensuring the disappearance of bacteria. Such seats are, therefore, superior for sanitary reasons to seats trimmed with plush, which have to be cleaned by compressed air or by brushing. For similar reasons the uncarpeted floors of carriages which are washed with hot water and soap and then wiped with a sterilized cloth are also freed from bacteria, and consequently that method of cleaning floors is superior to sweeping. On account of its impermeability and the ease with which it can be cleaned, linoleum was recommended in my report as a floor covering for carriages and sleeping cars instead of carpet.

Owing to the large window space in railway carriages and the free penetration of sunlight into them, together with the entrance and exit of air, the destruction of the germs of disease takes place to a great extent; but as the number of consumptive persons who travel by rail is considerable, the routine disinfection of day and sleeping carriages by formaldehyde should be regularly practised. A law making the use of *compartment* carriages by such persons obligatory would remove a source of peril from the general public, and make the work of disinfection more easy and economical for the railway company.

As the cubic space in a fully-occupied railway carriage, viz., sixty cubic feet *per capita*, is small, its ventilation by any method cannot be made satisfactory. Methods of cleaning, such as have been described, will, however, remove filth and the germs of disease, while the regular opening up of the clear-story windows will assist in the escape of impure and rebreathed air.

While British statistics show that the phthisis rate in adult life has steadily decreased *pro rata* with sanitary improvements, the number of deaths among young children from tabes mesenterica has increased as steadily, and that, too, proportionately with the amount of milk consumed, particularly infants' milk. Thus tabes mesenterica shows a diminution of 8.1 per cent. for all ages, but a large increase (21 per cent.) in the case of infants under one year of age; and these statistics are only to be explained by the great and wide-spread danger arising from tuberculosis-infected milk. It is calculated that 25 per cent. of the milch cows of Great Britain are tuberculous; and it is clear that preventive measures as to milk ought to be tried in that country.

The tuberculin test and the regular inspection of dairy cattle are also called for in this country, and for the same reasons. Dairy herds in Canada have no better claims to immunity than the herds of Great Britain; and the first step to remove suspicion from the

minds of the Canadian public with regard to the purity of the milk supply is to prove that all the dairy cattle are free from tuberculosis. It should also be shown that the animals are kept in clean, well-lighted, well-aired stables; that the supply of water is abundant and of good quality; that their food is ample and of good quality; that the utensils of the dairy are in good order; and that the methods of handling the milk, from the act of milking itself until the output passes into the possession of the purchaser, are of the most hygienic character. In obtaining such a report as to the purity of a milk supply a Board of Health is acting distinctly within its right; nay, more, it is its duty to protect the infants of the municipality against poor milk. Every Board of Health in carrying into effect a by-law to secure good milk ought to have the co-operation of all dairymen.

Unfortunately, instead of assisting such a good cause dairymen are sometimes a stumbling-block, fearing that inspection may lead to loss and infringement of their rights. The rights of a dairyman are to sell a good quality of milk at a fair price, and the rights of the Local Board of Health are to be satisfied that the output of his dairy is pure. A dairyman should invite and encourage municipal inspection, if for no other reason, because the demand for dairy milk will increase when its purity is assured. Under present conditions manufacturers of condensed milk, malted milk, and other infants foods are competing with the dairymen, and a good deal of money is paid for patent foods which, if people were satisfied of the purity of dairy milk, would naturally find its way into the farmers' pockets. In presenting this side of an important question it is to be hoped that a word to the dairymen will be sufficient for them, and that they will not be slow in taking the means to secure the confidence of the people.

It must not be concluded, however, that if lives are saved which formerly would have been allowed to perish by consumption, if mortality in child-life is diminished by isolation and disinfection, the saved lives are destined to reach old age. English vital statistics show that the number of individuals living to thirty-five years has increased, that of those living from thirty-five to forty-five years the number is stationary, and that there is a diminution in the number of persons living from forty-five to seventy-five years. In other words, if young people in England have a greater chance to reach forty years of age, those who survive to forty or sixty years of age are more in danger of death than their parents were at the same age fifty years ago. Two hypotheses may explain this fact, the vitality of the race has diminished, or the conditions of existence in adult life are more defective than formerly. Dr. William Butler, who discusses this question in an article published in *Public Health,* thinks it is principally the first factor which must he blamed. Turning to a second branch of the subject, he establishes a series of tables on mortality by groups of diseases occurring during the same period, and from the reading of these

statistics the conclusion is drawn that if deaths from consumption and zymotic diseases have become less in England the gain has been balanced by an increase in deaths attributed to diseases of the circulatory system, the nervous system and cancer. That there is a close relationship between tuberculosis and diseases of the nervous system is a view which has already been sustained by several observers, among others Dr. Stevens, of New York, who wrote in 1897 that affections of the nerves and disorders of the senses—principally alterations of vision—are transmitted by tubercular ancestors. A child is not more tuberculizable than other children simply on account of the blemish in its ancestry, but *is* a candidate for all the neuropathic disorders and myopia. The undoubted increase of myopia on the one hand and insanity on the other—the number of patients in lunatic asylums having doubled during the past fifty years in England—are closely connected with the diminished mortality in youth and also the diminution of cases of pulmonary consumption.

With the development of sanitation in our municipalities the conviction must grow that special and accurate knowledge of the science and art of hygiene should be possessed by medical officers of health. So far no organized effort has been made to train sanitary officers, unless we accept the lectures and instructions given by professors of hygiene in our medical colleges. In the June number of the *Sanitarian* I noticed that the Council of New York University has set apart buildings near First Avenue, between Twenty-fifth and Twenty-sixth Streets, for the use of a "School of Public Health," as provided by the law passed at the recent session of the New York State Legislature, and for which $25,000 was appropriated for maintenance for the year beginning October 1st, 1899. It is proposed to promote public sanitation in various ways, especially to instruct properly accredited medical men and lay sanitary officers throughout the State in methods and appliances for the prevention of disease. The public will be instructed in sanitary matters by university extension work. It is expected that a hygienic museum will be established for all forms of sanitary appliances, and models in plumbing, ventilation, disinfection, heating, clothing, and other kindred subjects, to be open to the public.

In thus drawing your attention to what has been done by our neighbors, I earnestly hope that you, and all citizens who feel interested in a similar enterprise, will bring it to the notice of your representatives in the Ontario Legislature, and will urge the Government of this province to make an appropriation for the use of a "School of Public Health" in Ontario. The second portion of the progress of sanitary education could be carried into effect, even if a school were not immediately established. Already the public are instructed in science and philosophy by university extension work, and the delivery of lectures on sanitary matters during the winter season would easily fit in with and become a useful part of such a programme of university studies.

A notion, calculated to do a great deal of harm, has long been disseminated by persons who are unwilling to admit the protective power of vaccination, and who try to explain the relative scarcity of small-pox in civilized communities by any theory except the right one. They contend that small-pox depends on filthy local conditions, that it is a disease of the poor and communities who neglect sanitary measures. Dr. Tebb, who has recently published a work, entitled "A Century of Vaccination and What it Teaches," supports this view, quite forgetful of the fact that in the seventeenth and eighteenth centuries small-pox attacked the high as well as the humble. In the family of William III. of England, his Queen, his father, his mother, his uncle and two cousins, children of James I., all died of small-pox, and the king himself barely escaped with his life. During the eighteenth century one Emperor and two Empresses of Austria, six archdukes and archduchesses, an Elector of Saxony, an Elector of Bohemia, a Dauphin and a King of France, a King of Sweden, and a Czar of Russia were all numbered among the victims. Surely all these distinguished persons could not be consistently classed among people who suffered from the prevailing ignorance and neglect of sanitary measures. Then again, to show that it was an omnipresent plague in England, when Jenner began his experiments, Gilbert Blane estimated that "an adult person who had not had small-pox was scarcely met with or heard of in the United Kingdom." When servants were advertised for it was common to specify "they must have had small-pox in the natural way." In 1688, in an advertisement for a counterfeiter, it was noted as a means of his identification that he was "without pock-holes." At the Institution for the Indigent Blind two-thirds of the applicants were made blind by small-pox. Thanks to the genius and bold experimentation of the immortal Jenner, small-pox has been controlled to an extraordinary extent by vaccination. In some countries it is so rare that in the opinion of German authors "it is no longer observed in civilized countries, and may soon be considered an infection which will possess a purely historic interest." So far this happy desideratum cannot be recorded of the United States, in which over 3,000 cases of small-pox occurred during the past year. In the Province of Quebec no considerable epidemic has arisen since 1885. Since that memorable year, when the Province of Ontario was visited by the scourge, only trifling outbreaks have occurred among us. At present there are no cases of small-pox in Ontario.

Immunity to small-pox can be procured by having the disease itself or by reliable vaccination—a statement the truth of which few will be prepared to deny. That many parents and guardians in Ontario, while persuaded of its truth, have yet neglected to present infants and young children for vaccination, has probably been due to doubts entertained by them as to the purity of the vaccine lymph in general use. The existence of a similar feeling has been noticed in England. On the occasion of a recent

gathering in London the President of the Local Government Board made an interesting announcement relative to the effect of the new Vaccination Act. He quoted from a report sent him by the head of his medical department, who said: "The inspectors inform me that there is distinct evidence of a general increase in the amount of vaccination going on, and in a number of cases the actual statistics recorded are highly satisfactory in this respect. In several such instances the increase in the number of certificates of successful vaccination sent in has ranged from 25 per cent. to 100 per cent. The increase was attributed by this gentleman to the system of domiciliary vaccination, and the provision of a better and purer kind of lymph, which has relieved the apprehensions of a great many people who were formerly opposed to vaccination."

The lymph alluded to by the English sanitary authority is, as you know, the new glycerinated calf lymph. The new article can be readily obtained by practitioners in this province, and it is quite likely that in a short time it will be used extensively. Any apprehension which Ontario people may feel as to the purity of the lymph used can, therefore, be promptly relieved, and if the vaccinator will do his work in a clean, aseptic manner, no evil results should follow.

Let us hope, therefore, that, encouraged by Local Boards of Health, vaccinators will do their work carefully and well, and that the public will, without exception, avail themselves of their services, thus hastening the advent of that day when the people of Ontario will be placed in a position of actual immunity to small-pox, which for them would then possess a purely historic interest.

ON THE ROLE OF PRIMARY AND SECONDARY OSTEOPLASTIC SURGERY IN THE TREATMENT OF COMPLICATED OR COMPOUND FRACTURES OF THE EXTREMITIES.*

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MODERN advances in the sciences have rendered necessary an entire recasting of our methods of dealing with various disorganizations of the bones of whole limbs or their members produced by the effects of violent force.

Very much more circumspection and deliberation are demanded of the surgeon before he proceeds to sacrifice a limb, or any part of it, by amputation, than in former times; improved mechanical expedients, with a widened knowledge of the regenerative properties of bone tissues, have enabled us to hold out hope to spare, and

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to restore, in varying degrees, many a limb, which in the near past was unequivocally condemned to severance from the body; and more, in trying cases, when the extent of mutilation of the soft parts has been considerable, when perchance articulations have been opened, or there has been such extensive shattering of bone that all our energies are concentrated on saving the member regardless of the degree of resulting distortions or deformity, by resorting to subsequent osteoplastic procedures, we may at present very frequently succeed in restoring symmetry, joint action and muscular movement.

Conditions Essential for Success in Primary Osteoplastic Procedure after Serious Fractures of the Extremities.

I want to make clear what is meant by this paragraph. When a case is brought to us for treatment, where the extent of the mutilation of the limb is great, when there co-exist serious bodily and visceral injuries, the patient in a state of shock, where we have not adequate provision for the proper treatment of the case, have not ample assistance of nurses, and environment is not such as to justify us in proceeding into putting the limb into permanent adjustment, in such cases we are bound to concentrate all our energies on the patient after we have locally dealt with the part—in what way? In the first place by cleansing it; and I mean therapeutical not chemical cleansing, because they are not the same, removing dirt and effecting complete hemostasis, embalming of the limb or pickling of the limb, and then setting it aside until the patient has reacted, when he is in a proper condition for ultimate consecutive measures. There are certain cases, particularly in children—restless children—where, having sustained a fracture of the limb and other injuries, the adjustment of the fracture at the time is impossible. I will illustrate, for example, where one has had a compound fracture of the humerus, and at the same time a fracture of six ribs—the fracture high up, in such a position that to fix it without impeding the respiration, without hampering the lung action, is impossible, and in a case of this kind where the probability or expediency of putting the limb into any kind of mechanical fixture which will immobilize it is clearly out of the question. In a case of this description, where we have a deformity, then we must resort to what is designated as "secondary osteoplasty," that is, dealing with a deformity which results from the defect of the limb, resulting after primary treatment, that depending on various causes.

1st. The condition of the patient manifestly is first our most serious concern. Is our patient in a state of grave physical shock?

I say physical shock, because one may under-estimate the degree of great collapse which follows various serious crushes of the body, when the senses are unclouded and the unfortunate

patient is sanguine of an early recovery, and, besides, entertains no serious thoughts of approaching death; as this only ceases when the surgeon intimates that the traumatism is extremely grave, and that no time should be lost in adjusting his temporal affairs and preparing for death, let it be remembered that the mental attitude of the patient weighs for nothing in reaching a prognosis with this class.

2nd. Has the patient been greatly exsanguinated?

Great loss of blood is always a very grave element in all extensive mutilating injuries. Our patient is blanched and cold; the pulse thready, tremulous and irregular. Our patient is thirsty; the muscles of the face twitch and the eyes are sunken. We will do well to direct all our energies toward reviving the waning powers of life before anything like a critical examination of the mangled parts is undertaken.

3rd. Is there any evidence of co-existing internal hemorrhage or serious visceral injury?

In many mangling wounds of the limbs from machinery or railroad accidents the nervous system suffers violent shock, the whole body violent concussion, and simultaneous visceral complications are not infrequent. We certainly will not examine minutely into the character of an injured limb while there are signs which point to the grave implication of an organ vital to life.

From the foregoing it is therefore apparent that under all circumstances our first attention must be directed to the individual; he must be made comfortable and composed, and, if ground for hope remain, artificial heat must be utilized and he should be freely stimulated. Full reaction should be established before a thought is entertained of ulterior treatment of the limb.

The Period when it is Safest and Most Expedient to Critically Examine the Parts with a View of Deciding on the Line of Treatment.

It has long been my conviction that very much harm has often been inflicted by the premature rough handling of limbs before the effects of shock have passed off. In serious cases our primary efforts should be directed toward first, securing effective and permanent hemostasis; secondly, thoroughly cleansing and covering the parts; and thirdly, placing the limb in a comfortable position. The word "comfortable" is here emphasized, because at this time theories must give way to facts. The limb is in the proper position when a sense of ease is experienced. This follows when the pressure on the nerve trunks is removed and every impediment to the free movement of the blood current is removed. To force one into full ether coma, suffering from a badly-mangled limb, and then make violent and repeated movements of torsion or extension, is to greatly imperil his chances, and is calculated to surely circumvent nature's efforts at restitution. But when the injury is

not one of great magnitude and the patient's general condition is good, we may be permitted more latitude of action and more lengthy manipulation may be permitted, although there is no doubt but in a general way the practice is a bad one of making any protracted examination or commencing any operative procedures of a protracted character at the first examination. We have done quite enough, then, at first dressing when we have controlled hemorrhage, embalmed the limb and comfortably adjusted it.

How long will we wait? If there be no secondary hemorrhage, no fresh exacerbation of pain, and no signs of asphyxiation or gangrene in the limb, we may delay for forty-eight hours or more, with advantage, before we remove the primary dressings. Now, at this stage, we can see where we are, we can accomplish what was impossible at the primary dressing, we can determine the extent of osseous vitality, we can form some estimate of what the future possibilities are for the limb. The time has now arrived when we may determine our course of action, though there is no good ground for haste yet in the adoption of definite therapeutic measures. As processes of repair can commence only on the subsidence of acute inflammatory engorgement, the prospects of effective osteogenesis are enhanced by this course. And, furthermore, our patient, now fully restored from the immediate depressing effects of violence, is better able to support with success further operative measures.

Secondary Osteoplasty after Reparative Processes are Complete.

The above constitute a new, large and growing field for progressive surgery, the scientific foundation of which was laid by the celebrated Ollier, and its practical utilization has been consummated by aggressive investigation in Europe and America. By judicious and skilful osteoplasty it is almost phenomenal to realize what may be accomplished in the way of osteorection and improving and restoring functions in damaged limbs; in restoring animation in parts palsied by nerve inclusion or nerve pressure Tenotomy alone, or combined with tenotomy or arthrotomy, under proper conditions, its use in enhancing the working value of a limb cannot be overestimated. By the intelligent employment of osteoplasty we may often not only prevent an amputation, but transform a wasted, twisted, anchylosed limb into a useful member, as it has several times been my good fortune to be able to demonstrate.

Conditions which Lead up to the Necessity of Secondary Osteoplasty.

It might be supposed at first sight that if a bad fracture, or fracture-dislocation, were properly adjusted and treated immediately after injury, there would be no occasion for any description of consecutive operations, that the time for interference or precise

action was while the tissues were disorganized—the sooner after the accident the better. But such reasoning is fallacious, as every experienced surgeon well knows.

Many times the question we have to solve is not, can we save the limb with a good prospect of recovery, but can we, by any means within our reach, preserve it in any shape? In very many fractures of various descriptions and under various circumstances no sort of fixed mechanical adjustment is possible, as, for example, when a fracture is multiple there are internal injuries or the vascular channels have suffered serious harm and asphyxia of the limb is impending.

On that point there is some difference of opinion, but I think all surgeons who deal with traumatisms will agree with the celebrated French surgeon who claimed that in all serious fractures the tissues were for some time, twenty-four hours at least, in a state of "torpor," in a condition of temporary asphyxiation, that there was a complete stasis of circulation in the parts, that the limb, as it were, has not felt the influences of reaction; that there has been no histological changes of the minute anatomical tissues, and hence the reason that there is no object in forcing equalization of permanent adjustment immediately after the injury.

Open and Closed Fractures; or the Complicated Simple or Compound Fracture.

My own investigations and experiments on induced fractures in the limbs of frogs, as well as clinical observations on mutilated limbs, have convinced me that incomplete vascular stasis of the distal end of a mangled limb is entirely compatible with its ulterior vitality, provided only that the damage to the great blood trunks has not been too great. But how can we calculate the extent of vascular damage, or what shall be our guiding principle of action if we are assured of its existence in this class of cases?

There are no means by which an estimate of vascular damage can be primarily determined, and often it is several days before the full vascular tide has begun to move. Our guiding principle, then, must be not to strangle or paralyze the already crippled circulation. No sort or description of splint or constricting bandage should be adjusted until the circulation has been fully rehabilitated.

It therefore follows that, inasmuch as accurate mechanical adjustment is not possible or expedient here, faulty, defective, distorted limbs or non-union may follow. We may also have hyperostosis or osseous fusion of continuous symmetrical shafts and other accidents.

This, then, would constitute the second class, *i.e.*, those cases of compound fractures in which it is obvious enough at the primary dressing that osteoplasty is called for, but for various local and constitutional circumstances beyond our control, it is deemed

advisable and sometimes imperative that we delay until the work of union is advanced or completed.

Complicated simple fracture or fracture-dislocation is not infrequently followed by such a degree of deformity or loss of function as to seriously interfere with the future use of the limb.

This is notably the case in various types of Pott's or Colles' fracture, fractures through the humerus, its shaft or proximal distal ends, intracapsular fracture at the hip-joint, fracture of the patella, etc. In many of these cases belonging to the above class osteoplastic surgery may be frequently utilized as a secondary or consecutive procedure; rarely immediately after injury except in suturing of the patella.

The tendency of most fractured bones is to resume their normal position after replacement, provided muscular tension can be effectively overcome, when satisfactory results follow; but in various situations, especially when joints are involved and the apophyses are broken off, complete replacement and support at primary adjustments may be impossible, or if effective then, the fragments may later move out of position and require operative treatment.

Making a Simple Fracture Compound for Diagnosis or Treatment.—Is it Ever Justifiable?

It has long been taught that compound fractures require about twice as long a period of time to unite as simple fractures, and besides that this type was always a much more serious affair than in those breaks of bone over which the integument remained whole. Until McEwen had demonstrated the safe and simple osteoplastic method of speedily overcoming deformed and distorted bone shafts, surgeons were about as charry of cutting into healthy bone shafts as they formerly had been about opening the cavity of the peritoneum. They had the horror of making a simple fracture compound, and when a considerable deformity followed a severe, simple or compound fracture they were usually contented to leave it undisturbed; or, if the deformity was considerable, with the joints locked, they amputated the limb. No one should ever lightly undertake an osteotomy after fracture; but when the condition is such as will inevitably be succeeded by marked deformity of the limb with serious impediment in function, we should never hesitate to open freely down over the seat of osseous disorganization and deal with the case as existing conditions require; provided, always, that the most vigorous asepsis is enjoined and we have a proper appreciation of the difficult task before us.

It is certainly a mistake to assume that all compound fractures are more protracted in uniting than all so-called simple fractures. Many simple fractures near articulations may be treated without splinting or compression of the vessels, uniting by primary unions. Heretofore, when an avenue for infection was maintained by what

was known as "drainage," and when the fragments were kept in the vise-like grip of rigid, unyielding adjustments, and thereby the vascular system nearly palsied, surely enough tardy or imperfect union was the rule.

Compound fracture wounds were formerly quite invariably drained.

Prophylactic drainage had indeed been regarded as a surgical dogma in open fractures, as in open wounds of nearly every description, whether they involved cavities or not. But we have now been convinced that indiscriminate drainage is a bad practice, and that in an aseptic or a recent wound, in healthy tissues, "drainage" is worse than useless.

It therefore follows that in recent compound fractures not attended with extensive laceration or contusion of the soft parts and an absence of shattering of bone, the overlying tissues may be closed in, with or without suture, and prompt primary union may follow of the fleshy and bony tissues.

Incision through the overlying tissues for purposes of diagnosis in fractures is certainly not justifiable, except in those involving the skull. By the use of the X-ray and other expedients a therapeutic diagnosis is practicable in all fractures.

Free incision, therefore, in many fractures is permissible for purposes of treatment—osteoplasty, for diagnosis only, never, except in skull fractures.

The Scope of Secondary Osteoplasty in Defective Joints or Deformed Limbs after Fracture.

Secondary osteoplasty, judiciously utilized, will often yield remarkable results, and may be regarded as one of its most salutary achievements in traumatic surgery. It deals with bones after their fragments have united, when the nerves are caught or compressed; in a hyperostosis, when the shafts are greatly deflected—in fact, when the limb is crooked and deformed—when a joint has been involved and its motions are either greatly impeded or entirely lost. It is an invaluable resource in the pseudarthroses. With the joints its great fort is at the hip, the shoulder, or, above all, at the elbow. Stimpson has utilized it with advantage after union and deformity at the ankle in Pott's fracture.

Secondary osteoplasty, however, may be employed with great latitude on the bony shafts of the extremities; with the greatest advantage on the leg. The sooner after union and the younger the patient the better. It is almost marvellous what we may accomplish by osteoplasty in the bones of growing children, as was recently demonstrated by Heuter (*Wiener klinische Rundschau*, März 12th, 1899). In a fracture of the humerus (patient five years old) attended with considerable loss of bone and a flail joint, he turned to the skeleton of the thorax and resected ten centimetres of the fifth rib, imbedded it in the hiatus in the arm and

closed the wound. Union was rapid and complete. In nine months the full use of the arm was restored and the rib regenerated. This, indeed, would seem the climax of homologous osteoplasty, and suggests what is expected of the surgeon in our times in the management of serious fractures.

It is not recommended that recourse be had to this means in cases of moderate deformity of a limb, with but slight impediment in function. But there is quite a large margin of cases where stiff and useless joints, with bowed bone shafts or useless limbs, follow union, wherein osteoplasty will sometimes accomplish extraordinary results. By it the muscles are liberated, and with the free division of the adhesions in the soft parts pressure on the nerves and blood trunks is removed, and the wasted, painful, paralyzed and useless member recovers its lost vitality. There has been practically a resurrection; the dead or useless has again come to life.

In medico-legal cases, in the future, when serious fracture cases are to be considered, when the future working value of a limb is to be estimated, the question as to whether the full resources of osteoplasty have been exhausted must be answered before it will be possible to make any definite calculation as to what the extent of permanent injury is.

Osteoclasis and Osteotomy with Osteoclasis in Angular Deformity of the Thigh with Shortening, Following Nearer Less Perfect Union.

Every surgeon or practitioner having much experience in the treatment of fractures of the femur will occasionally meet with cases of marked angular deformity resulting, after union, with considerable shortening of the limb. It is important to note here that it is not so much non-union which is at fault as imperfect or mal-union. In some of these cases there may be ground for suspecting unskilful treatment, but in the majority of cases the fault is with the patient and is fundamentally constitutional.

We know that fractured bones sometimes play strange freaks; at one time non-union lingering indefinitely, but the limb is massaged, or some internal remedy given, when all at once we note consolidation has set in.

Reclus recently notes how, in a few cases of tardy union, he administered thyroid extract with the most remarkable effect, while in several others it was quite useless. Again, in some cases after a month or more we release the limb from the splints, find the limb in excellent outline, with little or no shortening. There seems to be good union. We allow the patient to go about on crutches, later with a cane, and finally lose sight of him. But he turns up with a deflected, distorted limb, shortened and crippled. At first sight the aspect of such a case has a most disquieting effect. The patient has had his limb again "measured" and tells us, per-

chance, that we have left him a hopeless cripple. The prospect of having to defend one's self in civil action is not the most agreeable contemplation after such a mishap.

In this class the case only reports late, after the hardening process is advanced, say, from six months to a year, then nothing probably less than a formidable operation will hold out any prospects of overcoming the deformity. But, happily, most of these cases are in rickety subjects, or those in whom the callus softens and yields after the surgeon has discharged the patient, when weight is put on the limb. However, the bowing may occur before the patient has left the bed. In all these cases, immediately after discovery of the deformity, we should insist on osteorection with or without osteotomy. In my experience this deflection of the femur has occurred in children most frequently. It occurs most commonly in fractures near the middle of the femoral shaft. The convexity of the deflection is outward in nearly all cases.

It is interesting to note that in the great majority there is little, if any, over-riding of the fragments, as we know from the fact that after we refracture or press the shaft back into line there is generally no shortening.

When these cases are seen early there is no class of deformities treated with more gratifying effect, with more security and certainty of results. In all these there must be complete osteoclasis, or refracture, as soon as discovered, when the deflection is completely overcome. An adjustment should then be applied, but should be frequently removed in order to bathe and massage the limb and freely move the joints. In some cases refracture of the femur is easy, without dividing the bone, even later than a year. Such a case came under my care some years ago. The patient, a woman of forty years, was injured by a defective highway. She had a complete fracture in the middle third of the left femur, with but very little shortening. The limb was adjusted in gypsum, and after a week she was taken home. About a year after, when the action for damages was tried, her physician came to me and told me there was four and a half inches of shortening, and that walking was impossible. She had then won her suit, with a liberal verdict. Six months after this I was sent for to deal with the deformity. Now, at more than eighteen months after fracture, the femur was readily refractured and pressed into place. In three months union had completed, without any shortening. She at present has perfect use of the limb, without the slightest trace of any defect in locomotion. It is now three years since the deformity was rectified.

Osteotomy, as a preliminary step to osteoclasis, is indispensable when the uniting bond of osseous tissue has undergone hardening and does not yield to the application of moderate force. McEwen has shown us that osteotomy for rickety thighs or legs in children is a procedure quite devoid of danger, and is the most valuable

adjuvant ever placed at the command of surgeons for the correction of deformed limbs.

We should not be slow to take advantage of it in those distortions following union of the diaphyses, when it becomes necessary to cleave or partly divide the bone, though it should be borne in mind that in those cases of aggravated deflection we have to deal with an excessive callous formation, besides highly vascular parts, and, moreover, that in the femur of the adult osteotomy is always a procedure of considerable gravity.

It is wiser, however, when ossification is advanced to resort to it rather than to risk great violence by force, and thereby inflict serious damage to the large blood trunks, the nerves and soft parts. In its performance in the adult its greatest danger may be obviated by effective economy of blood and the most rigorous asepsis.

I have here some charts roughly diagrammatic of some things which will contribute in a measure to demonstrate what I have at home in the shape of drawings, but they are not in proper form to present to our secretary. Now, imagine this to be a case of fracture of the tibia in a child, with a loss of four-fifths of its diaphysis, three fractures of the fibula, the limb so badly fractured that I was sent for to amputate it. I was prepared to take off the limb at the hospital, but could not do so because of something which is very essential from the standpoint of the law, and that was we did not have the consent of the parents. I advised the house surgeon to summon the parents by telegraph at once. The mother arrived and said we might say what we liked, but the limb must not be amputated. We talked of tetanus, secondary hemorrhage, gangrene and all of those things, but the woman was obdurate. The child's father was in the far West, and could not get home for four days. If, on his return, he consented to the amputation, she was satisfied, but she would not allow it to be done until he saw his child. That woman saved that child's limb and many since, because it taught me a lesson I had then to learn. The whole of the diaphysis was gone. It was fractured at about the insertion of the epiphyseal line. The shaft of the fibula was fractured in three places, but you know the fibula is a bone deeply covered with muscles, everywhere except at the head, and you seldom get a compound fracture of it. You will commonly find compound fractures of the tibia, but seldom of the fibula, and when there is a fracture of the fibula there is rarely displacement. We had this whole segment from this line below to the line above (indicating) shelled out as a pea out of a pod—a pretty hopeless-looking state of affairs. After we adjusted the limb we did a little thinking. I noticed that the periosteum was very thick. As you know, in a child the periosteum is very thick and possesses great regenerative powers. To make a long story short, I put the limb in a light dressing, taking care not to hamper the circulation. The extent of recovery was so complete that when the case came up for trial—as the father, a very intelligent German, sued the railroad

company—the lawyer for the company asked the boy to walk up and down before the jury. The lawyer asked the foreman of the jury to say which limb had been injured, and the foreman could not tell. The extent of regeneration was so complete that it was not possible when the boy was walking to determine which limb had been injured. That was a case of a child. Remember, in cases of children, if the circulation is unimpeded, you can do anything with the bones. You cannot say immediately after the injury whether the circulation is unimpeded or not. No living man can say immediately after the injury—it can only be determined twenty-four or forty-eight hours after, when the patient has recovered from shock—whether the circulation is intact, as in the case of a child. If an amputation is made under such circumstances there is ample ground for a civil action.

Here is a case illustrating another factor in an adult, a man about thirty-two years of age, who had a fracture through the tibia, no fracture of the fibula, and who had been suffering from rheumatism in the limb at the time he fell down stairs, fracturing the bone shaft. Brought home and put under treatment. The ends of the bones projected through the tissues, took on a dark color, and emitted a foul-smelling discharge. The doctor who had charge of the case got alarmed, and came to me and said he could not see anything to be done to save the man's life except to take off the limb. It certainly presented an unfavorable aspect when I saw it. There was a section of bone gone. Now, what are you going to do, supposing you had preserved the limb? You are going to have a cushion joint, and you may compensate for that by having an adjustment applied to the leg which would throw the weight of the knee on the ankle, but a nuisance that must be to carry about in the hot weather. Can we hope, by any osteoplastic operation, to fill in that breach where the bone is gone, the bone shattered and detached and shelled out? Some few years ago Prof. Phelps, of New York, employed a heretoplastic operation, remedying such a defect in the limb of a child, by producing a fracture through the leg in the animal, and leaving its vascular attachments in contact and bringing it over and fixing it in this hiatus, with the hope that the elements would fuse and the breach be avoided. The results were unsatisfactory. The parts did not unite. It was a failure. What, then, next? In this case, as I said, the question, was, should we amputate? I found the man in good health, a young fellow with good circulation. The ends which projected were black, smoky, sooty-colored fragments, from the effects of the atmosphere on the iron elements in the blood. They had the aspect of being hopelessly necrosed, but of course the mere fact that they were black proved nothing about the parts buried by the tissues. I found there was good circulation and put the limb in a comfortable position. In a few days the congestion passed away, the limb looked well, but the breach was here. My idea was, after having cleansed the parts and gotten up

a healthy action, to go on with the secondary osteoplastic treatment. Here is where the secondary osteoplastic treatment comes in. Where, in the first dressing you cannot take advantage of the osteogenetic process to secure repair, and resort to it as a secondary procedure, and after the patient has recovered a fair share of health. I proceeded to cut off all the detached fragments. I then cut down to the fibula, cutting through the periosteum and taking out a segment of it which was four and three-quarters in length, nearly five inches. That corresponded with the gap. After that I pushed the ends up together and pushed up the leg, filling in the breach and putting in three heavy wire sutures. After taking off a long section like that you might say you have an elongated set of muscles and a flail limb. What is to hold the bones in position? A mechanical appliance is only a temporary expedient, for it has only the properties of an immobilizing agent and you will be pretty sure to have sloughs. But the fact is, if you remove two to four inches within a week the muscles will have shortened. They will have shortened so much that though they hang flabby and make no tension on the parts of all immediately after the injury, yet after a week's time the muscles will have so far shortened as to hold the fragments firmly in position. The result in this case is perfect. Osteoplastic procedures often require a great deal of time. This man was down from the 5th of July, was able to get about on crutches the 1st of November, about the 1st of January he could go around with a stick, and after another year he did not require any support, the ankle-joint was perfect, and two years after the accident he walked from One Hundred and Twenty-fifth Street to Coney Island and back, a distance of thirty miles, without crutch or stick of any kind, and has as perfect control of his limbs as any man, compensating for the shortening by a raised sole on his shoe. We have another kind of case involving fracture through the shaft of the tibia, and I cite the tibia because the compound fractures which we see, 95 per cent. of them, are fractures through the tibia, and there is no bone in the body which we can deal with so satisfactorily with osteoplastic procedures as the tibia, and I cite it as an example. We have a fractured tibia here (indicating), with a fracture through the fibula. In this gap between the proximal and decidual fragments are pieces of bones. The bones are shattered and some of these pieces can be picked out. There are other pieces which can be drawn out. They have attachments to the muscles and periosteum, and to some of the connective tissue, and they have a vascular connection. In a case of this kind—I have tried it in only one—I picked out the loose fragments which remained, fixed them in the centre, closed in the breach with sutures, and these small fragments that had a vascular connection, being fitted in a breach, ultimately underwent a hyperplastic operation, which in time filled in that hiatus. This is another way in which the result was accomplished. This is a rough illustration of the kind of fractures where you get a sharp angular deformity.

We dismissed the patient all right, but after a few months he turns up and there is an angular deformity of the femur and a shortening of five or six inches. The patient has suffered very seriously from the defect of the limb, and as we cautiously look at a case of that description we are certainly impressed with its serious character; but we must bear in mind, particularly in children, that in most cases deflection comes from the softening of the callus. The bowing of it, fortunately, almost invariably is in an outward direction. It is in a part where there are no important blood vessels or nerves. We can, in many of these cases, restore the length of the limb completely, which is proven by measurement, and we know when we restore the complete measurement there could have originally been no over-riding. In other cases of adults you will find sometimes that as the result of serious injury to a part, at the time of first injury, little can be done in the way of treating a fracture, but yet by secondary osteoplastic procedure you may succeed in giving the patient a good limb. Such a case I had last year, a young man who was a switchman and who had his thigh fractured by an accident on a train. At the same time he sustained grave bodily injuries, so that little could be done with the injury of the thigh at the time of the accident. There was a shortening, something more than a shortening, paralysis of the muscles of the foot, so that he had no sensation in the foot. The muscles of the limb had wasted, and it was a question of taking off this useless limb, that was only in his way, and was the source of pain. He was a young fellow with a great deal of grit, and disliked to entertain the thought of amputation, although it seemed to be the only resort in his case. He was sent to me, and I found a vast mass of callus. I found that the external division of the popliteal nerve was calloused. I separated the nerve from the callus and found the callus was united so firmly that it was a difficult thing to do. I then made a cross-section through the fragments and brought the limb into position, and the young fellow made a good recovery. He did not get perfect union, but the deformity was obliterated and the paralysis recovered from. He is back to his work to-day. That is an illustration of what may be accomplished in what is known as secondary osteoplasty. I saw such a case yesterday at the Soldiers' Home at Hampton. I believe the soldier could be put on his "pins" and be made a useful member of society. In most cases of fractures of the femur we sometimes do not meet with the same success, and a different condition will result; but it is unusual.

This is a case in which the patient was injured on the 10th of March a year ago, in a head-to-head collision, in which he sustained serious bodily injuries, and when he had finally recovered, among other things, the tibia bowed up, the personal group of muscles of the foot was paralyzed and wasted. The limb was of little or no use. In that case, by secondary osteoplasty we were enabled by the refracture of the bone, getting the fragments into

position, to get such a good result that the man could throw the whole weight of his body on one foot and walk about without a cane; no crutch or anything of that kind. He is a locomotive engineer and can go to his work now a sound man.

It struck me, Mr. President, that those who have to deal with injuries so commonly involving the bone shafts, and from the fact that there is so little to be found in our works on surgery dealing with the subject of osteoplasty, that a few notes bearing on the matter would not be lost on this Association.

(*To be completed in next issue.*)

AN EXPERIENCE IN FORMALDEHYDE DISINFECTION.*

BY F. MONTIZAMBERT, M.D. (EDIN.), F.R.C.S., D.C.L.
Director-General of Public Health.

On the evening of Tuesday, June 6th last, the S.S. *Lake Huron* arrived at the quarantine station of Grosse Isle, in the River St. Lawrence below Quebec. She was twenty-five days out from Batoum, on the Black Sea, with 2,300 Doukhobor immigrants on board and a crew of sixty-nine, including the pilot.

Smallpox being found on board, the vessel was ordered into quarantine. Seventeen cases of this disease, eleven of the Doukhobors and six of the crew, were removed to the hospital between the time of the arrival of the vessel and the completion of the landing of the persons and effects they had brought. All the 2,300 passengers were landed by Friday evening, the 9th. The heavy luggage from the hold was landed on Saturday and Sunday. The vessel was disinfected on Monday and Tuesday, the 12th and 13th, and she was offered to her agents for release, with a new crew, on Wednesday, the 16th, at 4 a.m.

The usual methods employed in the Canadian quarantine service for the disinfection of vessels are as follows: Steam for all hospital cabins and other small apartments where it can be used; formaldehyde for saloons, staterooms and small apartments where permanent fittings would be destroyed by steam; sulphur dioxide gas under pressure from the blast furnace for holds and steerages; and mercuric chloride solution for all free surfaces, alleyways, latrines, bilges, etc.

On this occasion the sulphur dioxide blast appliance of the station was not available. Steam is not suitable for large apartments as the temperature cannot be kept up, and the steam is therefore

*Read before the Canadian Medical Association, Toronto, August, 1899.

precipitated as simple hot water. Accordingly formaldehyde was used for the holds and steerages on this occasion.

The cubic space involved was as follows:

	Cubic feet.		
Main deck	34,453		
" "	13,441		Three compartments open longitudinally.
" "	26 977		
		74,871	
Forehold	17,534		
"	13,461		Three compartments perpendicularly open by hatchways.
"	18,117		
		49,112	
No. 2 hold	17,680		
" "	15,727		" "
" "	22,975		
		56,382	
No. 3 hold	4,657		
" "	4,264		" "
" "	5,920		
		14,841	
No. 4 hold	13,446		Two compartments perpendicularly open by hatchways.
" "	19,530		
		32,976	
Afterhold	12,734		
"	13,520		" "
		26,254	
Total measurement..		254,436	

The formaldehyde was liberated from formalin, the 40 per cent. aqueous solution of the gas. Twelve ounces of the solution were allowed for each 1,000 cubic feet of space. The time of exposure was eight hours. Two instruments were employed in this part of the work.

Although, as stated, the disinfection of the vessel was completed on the morning of Wednesday, June 14th, owing to heavy weather it was not until Friday, the 16th, that the new crew could be sent down to receive and take away the vessel. During this interval an "anchor watch" was kept on the vessel's deck and in her engine-room, the officers and crew continuing to live on shore. When the small steamboat bringing the new crew came in sight, the last of the old crew were brought ashore, and the *Lake Huron* was left riding at anchor in the offing without any one on board. The new crew that then boarded her and took her away were from a sister ship, the *Lake Superior*, then at Quebec. After taking the *Lake Huron* up to that port they had to leave her within a day or two to rejoin their own vessel. They were at once replaced on the *Lake Huron* by another, a third crew.

Thus two new sets of men boarded, occupied, lived and slept in this vessel within from two to four days following her disinfection, after there had just been removed from her seventeen cases of smallpox scattered among nearly 2,400 people packed on board,

and having occurred both in the steerage and in the forecastles. This constituted, of course, a much more severe test of this method of disinfection than the re-embarking of the original crew would have done.

I am happy to be able to state that there has not been reported any subsequent case of this disease in connection with any of these persons, or traceable in any way to this vessel, during the two months and a half that have now elapsed since these events occurred.

I am aware that this disinfectant, formaldehyde, has been employed before for the purification of vessels, notably some of the United States transports after recent service at Cuba. But I have not seen any instance recorded of its use on so large a scale in the face of actual infection with smallpox. Nor do I know of its results being put to so crucial a test as upon this occasion.

In my opinion the use of sulphur dioxide driven in from the sulphur furnace under the strong pressure of the exhaust fan must remain our chief reliance for large apartments, such as holds and steerages; but still this instance of the successful employment of formaldehyde as an alternative is not without its value. I do not forget how careful we have to be not to hastily draw conclusions from any one case or occurrence. Still it is only by the noting of single cases that cumulative evidence can be obtained, and I have therefore thought this test of formaldehyde disinfection on a somewhat extensive scale to be of sufficient interest for me to bring it before this Association.

SYSTEMATIC INTRA-UTERINE EXPLORATION AFTER EXPULSION OF PLACENTA.

BY JOHN HUNTER, M.D., TORONTO.

In no other sphere, unless it be in the ecclesiastical one, are the "traditions of the fathers" more reverently or superstitiously followed than in some phases of obstetric teaching and practice. If, at any of our medical associations, one should attempt to promulgate a reform in some of the old effete methods in vogue for centuries, in order to bring them in line with modern systems of procedure, in surgery and gynecology, he immediately confronts the sternest opposition. One after another of his colleagues rises, with a decorum commensurate with the gravity of his purpose, a visage surcharged with indignation, and with solemn words, indicative of the unfathomable cerebral depths in which the roots of his convictions are imbedded, he rehearses his unfaltering faith in the old traditions, utters his protest against the innovations, and hurls his anathemas at all such unsanctified teachers and teachings.

We witness these scenes with some surprise and amusement, and could well afford to wait until time had consigned these traditions to the same limbo as witchcraft and kindred delusions, were it not for the fact that the perennial reiteration of them retards the progress of obstetric art. Why should obstetrics—any more than surgery or gynecology—on the threshold of the twentieth century, be hampered by the unscientific theories and teachings of bygone ages, although some of these had the endorsation of the most illustrious names that adorn medical literature? These great ones made the best use of the opportunities of their time. Why should we not follow their example, in this respect, rather than their teachings? Of course, it does not follow that in order to introduce much-needed reforms we are to throw overboard the wise conservatism reared on clinical experience, the safest and firmest of all foundations. Because one man with a large experience and good technique can do certain things with impunity, is no excuse for the rank and file following blindly after his methods. A Blondin may find a tight-rope quite a safe means of transportation across a Niagara River, but a foot-bridge is a much more suitable pathway for the crowd.

The question of a systematic exploration of the uterine cavity, after the expulsion of the placenta, in every case of labor, may be discussed from two standpoints: 1. Its Necessity. 2. Its Safety.

It is necessary in every case, for no matter how carefully we may examine the expelled membranes, we cannot be sure that no fragments have been left. Two quite recent cases fully convinced me of the truth of the statement just made. In each case an experienced nurse and I, at the special request of the patient, made a most thorough inspection of the placenta. We assured the first that the after-birth was entirely away. At my next visit I was confronted with a fragment on a napkin. The second lady insisted on having an examination made, although positively assured that all was away. The finger captured quite a piece, but for prudential reasons the patient was not made aware of it.

The retained fragment, be its size what it may, is now a piece of disintegrating dead tissue, and, as such, a menace to life. It may be said that nature will take care of these fragments without our meddling. Such an excuse is only a sin of presumption. No obstetrician, in the light of the present day, would be justified in leaving any fragment that could be easily and safely removed. Do we not feel uneasy when, with cases of abortion or adherent placenta, we are obliged to leave some portion behind. Visions of sepsis haunt us for days. A dozen similar excuses to the above may be formulated, *i.e.*, fragments remain aseptic, become attached to uterine wall; or, there are difficulties in making the exploration, probabilities of all the debris not being removed even then, etc. In regard to the former, they are only variations of the same sin of presumption; and as to the latter, they are simply the limitations incident to all operative work. What progress would

surgeons or gynecologists make if they allowed themselves to be deterred by the possibility of having to contend with difficultics in operating, or by having to endure regrets for undesirable results. Why, then, should the obstetrician be discomfited by difficulties that only nerve his confreres to acquire greater skill and a more efficient technique? There is no room in obstetric practice for the unclean, unprogressive, unscientific, timorous or superstitious. The imperative call is for clean, intelligent, practical, scientific, aggressive work.

Its Safety.—The devotees of "the traditions" are so entrenched on this kopje that it is almost impossible to hit them with the lyddite shells of criticism. They can only be dislodged by the thrusts of steel-cold facts. It is said that to systematically make a *post-partum*, intra-uterine exploration in every case of labor would be a very unsafe practice to follow. It must be frankly conceded that there may be about this, as in every operative procedure, especially on the intra-abdominal or intra-pelvic organs, an element of danger. But let us be consistent. Why wave the danger signal so frantically at this procedure, when we not only shut our eyes, but actually practise and endorse far more dangerous performances in the early stages of labor? Take, for instance, the primary digital examination. The accoucheur comes in, perfunctorily washes his hands, passes one or two fingers up, more or less forcibly, through the cervix, and sweeps them round and round the head. If there be infection on the fingers, could ingenuity devise a better method for having it effectually implanted well within the uterine cavity? He then estimates the progress of the labor, and goes off, perchance to lance an abscess or dress an infectious wound, returns and repeats the examination time and again. In the meantime the fetal head is lacerating the soft tissues, and opening new avenues for infection, and the attrition of the head against the uterine walls rubbing in the infection very thoroughly. This process may go on for hours. Compare these conditions with those surrounding a *post-partum* examination. Granted, that we have in the latter equally favorable conditions for infection; but what are the probabilities of its getting there? The accoucheur has been with his patient for some time, his hands have been washed frequently, the fingers are introduced gently, swept quickly around, and removed as the uterus is contracting. In the first stages of labor, the pressure of the fingers, the ever-widening fissures, the attrition of the fetal head, all alike contribute to absorption of any infection, whereas in the *post-partum* period there is a process of contraction, exfoliation, extrusion and expulsion going on. The gush of blood that follows the withdrawal of the fingers, and the outflow of the lochia tend to carry away any infectious material, so that, from the standpoint of safety, the *post-partum* examination or exploration is virgin innocence compared with the strumpet-like procedures carried on in the first stage of labor.

In conclusion we may briefly compare the two procedures as to the necessity for either of them. I think clinical experience fully confirms the statement that there is a far greater probability of finding harmful debris in the ex-gravid uterus than of finding mal-positions of the fetal head, or other abnormalities in the gravid uterus; in fact, we so rarely meet these latter conditions that the discovery of them rather surprises us. They are probably not found in more than four or five per cent. of all our cases, so that practically, we know that in ninety-five or ninety-six per cent. our only excuse for making an examination is merely for information regarding the progress that is being made. Now, if this procedure be justifiable for the purpose just mentioned, is it not a hundred-fold more so when in the ex-gravid uterus we expect the exploration to be of great service in removing waste products that might easily become inimical to health, or even life?

I have only touched the fringe of this question, or in military parlance, a scout has taken a snap-shot that may precipitate a battle. Well, if war be ever justifiable, it would surely be between the vitalizing optimism, that hopes for clean, intelligent, practical, scientific, aggressive work in obstetrical art, and the palsied pessimism that is famishing on the traditions and teachings of mediæval ages.

Is the Sealskin Sacque Unhealthy?—And now it is the sealskin sacque's turn to come under the ban! A New York doctor says he verily believes that more deaths have been caused in New York from sealskin coats than from smallpox. The owners feel so proud of their possessions that they often even wear the coats indoors. The same doctor says that silk underclothes are an abomination. They are too closely woven, says he. Wool is the only proper wear. The married men of the world should promote a testimonial to this medical gentleman, who is known in New York as Professor Thomas Jefferson Harris of the Post-Graduate Hospital.

A Great Honor, but only Deserved.—It is not often that royalty honor manufacturing pharmacists by a visit to their factory. Such renown, however, recently fell to the lot of E. Merck, the well-known drug manufacturer at Darmstadt, Germany. Her Majesty's grandson, the Grand Duke of Hesse, showed his interest in the chemical industry of his country by spending the better part of two days examining closely into the varied processes of manufacture of refined drugs at the establishment of Merck & Co. The Grand Duke was accompanied at the time of his visit by the Grand Duchess of Hesse, the Duchess of Cobourg, the Grand Duchess Helena of Russia and Princess Beatrice of Cobourg. The party visited not only the works, but went all through the warehouses and suites of offices.

Pathology.

IN CHARGE OF . . .
W. H. PEPLER, M.D., C.M., AND
J. J. MACKENZIE, B.A., M.B.

ON THE SIGNIFICANCE OF MIXED INFECTION IN PHTHISIS.*

(*Abstract.*)

THIS paper, 174 pages in length, is one of the most complete which has yet appeared on this subject. It contains the result of histological and bacteriological studies of twenty-six selected cases of phthisis, with clinical histories of the majority and with a very full discussion of the literature of the subject. The chief results of the investigation are summarized as follows:

1. The bacteria which appear in the lungs with the tubercle bacillus, in the course of tuberculosis, settle first in the contents of cavities, then in the walls of cavities, and can, as a result, produce by their toxins, an effect upon the surrounding tissues or eventually upon the whole organism. They may lead to the destruction of the cavity wall and produce a pneumonia in the neighborhood, either alone or in combination with the tubercle bacillus, in the course of which also a toxemia or bacteriemia may appear. Further, they cause by aspiration into healthy lung tissue broncho-pneumonias, which either heal up or lead to destruction of lung tissue and eventually also to toxemia or bacteriemia.

2. The mixed infection appears, pathologico-anatomically, chiefly in the form of a pneumonia, which arises from the combined action of the tubercle bacillus and other forms, and shows a focal, lobular or lobar character, and there may be demonstrated in the inflamed lung tissue, either with or without tubercle bacilli, numerous bacteria, especially streptococci, staphylococci and pneumococci.

3. The mixed infection plays a great role in the phthisical process, not only in its clinical course, but it also influences the pathological findings in the lung tissue.

4. The certain demonstration of the mixed infection is possible only by histological investigation, especially by the evidence that the foreign micro-organisms are found in larger numbers on and in the cavity walls, and also that they are taking part in the origin of the pneumonic changes in the neighborhood of the cavities, and that secondary broncho-pneumonic foci, arising from the aspiration of cavity contents, contain in the first stages of their formation, either with or without tubercle bacilli, other bacteria in such

* Sata (3rd Supplement to Ziegler's *Beiträge*).

numbers and with such distribution that pathogenic significance must be ascribed to them.

5. Sputum investigation and the cultivation of bacteria from the lungs *post mortem* alone give no safe evidence of the existence of a mixed infection.

6. Mixed infections arise mostly after the beginning of the degeneration of the purely tuberculous tissue, and may appear after a longer presence of this degeneration.

7. Only in closed cavities do the contents remain for a longer time free from foreign bacteria. Mostly, immediately after communication of a cavity with the outer air, it is sown with foreign organisms, but mixed infection does not yet begin, but only when the bacteria penetrate the wall, lead to degeneration of the same, and produce pneumonic changes in the neighborhood, or when by aspiration they pass to distant portions producing there the so-called mixed pneumonia.

8. What we call phthisis is usually only in its first stage a pure tuberculosis and apparently not in all cases, even in the first stage. Pure tuberculosis which proceeds but slowly or may remain a long time dormant and may be discovered accidentally at autopsy, can neither from its clinical course nor from its anatomical character be designated phthisis, yet there occur advanced tuberculous changes of the lungs with limited pneumonic exudation in the neighborhood of the caseous, fibrous, tuberculous foci in which a mixed infection cannot be demonstrated. Whether in such cases a mixed infection never existed, whether the secondary infection has healed and only the tuberculosis remained cannot be decided anatomically.

9. The majority of cases of advanced phthisis are consequently mixed infection, and a greater part of the phthisical changes are the result of the secondary infection.

10. Pure local tuberculosis of the lungs shows no fever or very slight fever, whilst mixed infections cause high fever, so that we may from the fever conclude as to the presence of mixed infection.

11. Pathologico-anatomically there is no qualitative difference between pure tuberculosis and a phthisis complicated by mixed infection, but a quantitative difference exists in that in the latter the inflammatory phenomena are more marked.

12. In animal experiments the more severe character of the mixed infection may be demonstrated.

13. The chief bacteria which play a role in the mixed infection are the following: Streptococcus pyogenes, staphylococcus pyogenes aureus, diplococcus pneumoniæ, the pneumobacillus and its varieties, and the pseudo-diphtheria bacillus pulmonalis. All the bacteria which are found in the sputum or by culture methods do not take part in the destruction of the lungs. The changes due to secondary infection may heal up, so that after disappearance of the bacteria only tuberculosis may remain.

14. It is very probable that the secondary infection does not always act injuriously upon the phthisical process. It may happen

that it may hinder the reproduction and spread of the tubercle bacilli, and give rise to changes which may lead to a healing of the disease.

15. The tuberculous foci usually do not enlarge from one centre, but are enlarged by the union of foci developing near one another. The individual focus tends to heal, the danger lies in the formation of new foci through the escape of bacilli.

16. The wall of the cavity is often not tuberculous, but consists of a well-built granulation tissue, and this phenomenon depends apparently chiefly upon the secondary infection, in that the above-named bacteria repress the tubercle bacilli. J. J. M.

Hungarian Punishment for Bigamy.—Bigamists in Hungary are compelled to submit to a queer punishment. The man who has been foolish enough to marry two wives is obliged by law to live with both of them in the same house.—*N. Y. Med. Rec.*

True, even in the Practice of Medicine.—It always struck me, says a writer, as very remarkable that some people can win success easily while others have to wage a long battle for it. Two people may engage in the same line of effort, and while one will make money the other will fail. Take Edward Bellamy, for instance. He made twenty thousand dollars by "Looking Backward." Lot's wife, who tried the same thing, succeeded only in making her salt.

It's an Ill Wind Turns None to Good.—"A big family," said the old colored inhabitant, "is sometimes a great blessin' ter a po' man. I got nine sons—ol' en young. One got run over by a railroad, en I got damages out er him! n'er one had a leg shot off en durin' de las' war, en de guv'ment come up han'some fer him; en all de res' er dem has had de good luck ter git hutted in some way, en ever' time dat come I got de damages; so in my ol' age I feelin' mighty comfortably, en I rises up en calls dem chillun blessed!"—*Atlanta Constitution.*

Treatment of Tinnitus.—After giving an anatomical description of the ear, with illustration, and going over the various affections of the organ itself, and of other organs capable of causing the symptom of buzzing, the various remedies employed are passed in review. Cimicifuga racemosa has been recommended by Robin and Mendel as a drug governing vascularity and a moderator of reflex irritation. It is used as a tincture (gtt. xv.-lx.), fluid extract (gtt. x.-xxx.), or cimicifugin (product of precipitation of the tincture by water (5-20 cgm.). These authors have found, with the exception of cases lasting over two years, that cimicifuga gives prompt and complete results.—*Bulletin Général de Thérapeutique*, December 8th, 1899.

The Canadian Journal of Medicine and Surgery

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Editorials.

DISINFECTION OF SHIPS BY CARBON DIOXIDE.

AN accident which happened about the beginning of November, 1899, on board the ship *Polis Mytilini*, in the harbor of Trieste, has led up to a discovery which may be of the greatest utility in public and private hygiene. One of the seamen having died of bubonic plague, the most rigorous sanitary precautions were immediately taken to prevent the extension of the disease. When the disinfection of the ship's hold was being attended to, no dead

rats were at first discovered, but when some casks containing fermenting molasses had been removed, a considerable number of dead rodents were found beneath them, which had evidently perished from inhaling the fumes of carbon dioxide escaping from the fermenting molasses.

This accidental discovery has given a hint to Dr. Apéry, of Constantinople, who intends to turn it to a scientific use in disinfecting the holds of ships.

As everybody knows, carbon dioxide, which is not disagreeable to the senses, is, when respired, incapable of supporting life, and causes asphyxia. Being one and a half times denser than atmospheric air it displaces the latter in the lower strata of air in a closed place, so that, if allowed to escape into a tightly closed room, a candle placed near the floor will be extinguished; in the same way an animal or a human being lying near the floor would perish. So that if an apparatus for producing carbon dioxide is placed in the hold of a ship, for instance, a flask containing broken pieces of marble, acidulated with muriatic acid or sulphuric acid or a generator of liquid or solid carbon anhydride, the gas, owing to its density, will displace the air at the bottom of the hold, until at last the lowest portions of this space will be filled with carbon dioxide and the rodents there will be asphyxiated. To bring all the rats in the ship to the desired spot some kind of bait, such as tallow or cheese, is placed there before the gas is disengaged. With a lighted candle placed at a suitable height the investigator can ascertain the level of the hold at which air has been displaced by carbon dioxide, for the light will be extinguished as soon as the supply of oxygen becomes insufficient to support combustion. After the operation is finished the hold can be aired so that a man can enter and remove the dead rats. This aeration may be done with an air-pump, by heating the air in the hold, or any other system of ventilation. To obtain certain results the operation should be repeated two or three times on alternate days.

When the rats begin to be inconvenienced by lack of oxygen they are unable to escape, but become paralyzed and die on the spot. If any of them survive they leave the vessel. To prevent the contamination of other vessels by the rats or the carrying of infection to the land, this operation should be done when the ship is two or three miles out from a port. The operation is quite inexpensive. It can be supervised and the disengagement of the gas can be observed by the lighted candle, which serves as a

reagent and an alarm signal. Owing to its density and diffusibility, carbon dioxide penetrates into the deepest holes and interstices. If the rats are drawn to the desired spot by the bait, they die there and the putrefaction of their dead bodies does not infect the other parts of the ship. Consequently, it is simply necessary to disinfect their dead bodies and then pitch them into the sea.

However, according to the experiments of Montefusco, of Naples, and Leone, of Munich, carbon dioxide prevents the development of micro-organisms and causes their numbers to rapidly decrease. When it has been ventilated, the hold of a ship disinfected in this fashion has no particular odor, such as is experienced after the use of phenol or formaldehyde. This process may be used to a certain extent in the basements of buildings and in shops. J. J. C.

UNSUCCESSFUL VACCINATIONS—ARE THEY ALWAYS THE FAULT OF THE MANUFACTURER?

THE following sentences appeared in an editorial in a recent issue of the *Cleveland Journal of Medicine*, and, as they contain a considerable amount of common-sense, we cannot refrain from reprinting them. The writer says, "A most amusing absurdity threatens to occur in a town *not far* from Cleveland. The health officer of the town has been so unfortunate as to experience a large proportion of unsuccessful vaccinations. He attributes this to the poor quality of the virus that he has employed, although other physicians in the same town, using the same make of virus bought from the same drug stores, have experienced successful results. In order to show his authority, his contempt for the opinion of his professional brothers, and his detestation of the fraud that he alleges has been practised upon him, he now asserts that he will sue for damages the druggists who sold the virus, and that he will compute damages at the rate of 75 cents for every unsuccessful vaccination. Beyond making himself additionally ridiculous, it is difficult to see any result that he may achieve from this procedure."

That the manufacturers of vaccine virus in Canada and the United States have gone to very large expense indeed to secure the best plant procurable for furnishing the finest and purest lymph is fact. It is but fair to give those gentlemen credit for

their desire to give the medical profession a lymph; the purity of which cannot be doubted. It cannot, on the other hand, be denied that vaccinations in many cases have given rise to quite unnecessary suffering on the part of the patient from the inoculation of a serum not fit for use. Such cases, however, are now rare, especially since the glycerinized virus has become what might be called fashionable. It is not fair that every time a physician has an unsuccessful vaccination, he should there and then proceed to jump upon the manufacturer of that particular lymph. Medical men must admit that, in a large majority of cases, failure to successfully vaccinate is due to a too great routine process in the performance of this trifling surgical procedure. It is quite possible to be too particular, in a sense, over the cleansing of the spot about to be scarified. In many cases, where the arm is washed with a too strong mercurial solution and the part not thoroughly dried after, the activity of the virus is entirely destroyed. Again, since the glycerinized lymph has come into vogue, it is quite possible for the operator to forget that this lymph takes a good deal longer time to dry than that taken from ivory points, so that by the patient being allowed to pull down his sleeve too soon, the lymph can be very easily removed from the point of application and the vaccination again prove unsuccessful. There is another point worthy of remembrance, and that is, that some physicians insist upon applying a fairly strong antiseptic dressing after inoculation and before the virus has become thoroughly dry, the dressing there and then, instead of the cutis vera, becoming the absorbing agent. These points are worthy of emphasis, and we think that there will be few who will doubt our statements in this connection. In vaccinating it is well to bear the following points in mind: 1. Don't prepare the site by washing with antiseptic solutions. Or if this is thought necessary— 2. Don't fail to rinse thoroughly with sterilized (boiled) water, and dry. 3. Be sure to prick the abraded surface to assure penetration of the vaccine to the cutis vera. 4. Don't draw blood if you can help it. A gentle oozing of serum gives much better results. 5. Don't fail to rub the vaccine thoroughly and persistently into the abrasion. 6. Don't replace the clothing until the vaccine is thoroughly dry. 7. Don't apply antiseptic dressings.

In this connection we may add that the recent smallpox outbreak in the vicinity of Toronto has brought forth strange antagonistic expressions toward compulsory vaccination from a

few in our midst of whom we expected better judgment. It surely cannot be fear of the impurity of vaccine lymph at this advanced stage of serum therapy that is causing so many protests against compulsory public vaccination. From the Chief Magistrate down to certain of those clever ones who compose the Board of Deliberators who decide in conclave solemn what is best for the Young Idea, the plural of him, of course, who attends the public schools, all have something to say. A few medical men, very few indeed, hold the idea that vaccination is injurious and has resulted to the physical injury of the subject. In some instances this may have been true in past years, but at the present time the great mass of the medical profession can give clear, strong evidence of the greatest good to the community at large by compulsory vaccination. Surely the opinion of the entire ethical medical profession, with a few exceptions, should be a sufficient guide to the people of this city. His Worship, for "his credit's sake," should lend his influence and encourage the vaccination of "the Kids," lest the plague be not stayed and the fair face of young Canada be marred and deprived of its original comeliness. As to this latter subject all depends on the point of view, of course. An old Irish woman looking at a man who was occupying a prominent place among his fellows, overheard a remark of sympathy expressed by a passer-by relative to the way the man's face was "pitted" by the ravages of the smallpox. She remarked, "Arrah, darlint, carved work 's the dearest." W. A. Y.

ADMINISTRATION OF MEDICINES OR FOOD BY THE NASAL PASSAGES.

We notice in *Le Progrès Medical* an article by Dr. Salomon, in which he recommends the nasal route for medicine or food, when either the one or the other cannot be administered by the mouth without difficulty, violence or danger. The subcutaneous and rectal routes are not always satisfactory, and we regret our inability to reach the stomach without the assistance of the tube. The introduction of this instrument is sometimes very difficult, and is not always a harmless proceeding, even in the hands of experienced practitioners.

Dr. Salomon has been in the habit, for the last twenty years, of introducing liquids into the nostrils of patients with a teaspoon. The patient is placed in the dorsal position, the head thrown back-

wards and steadied by an assistant if the patient is excited, or simply held by one of the physician's hands if quiet. To facilitate the introduction of liquid, a 20 per cent. solution of cocaine may be applied as deeply as possible to the interior of the nasal fossæ.

Dr. Salomon continues: "Having plugged one of the nostrils with cotton wool, you place a teaspoonful of the liquid you wish to use in front of the other nostril, and, waiting for the beginning of an inspiration, pour it into the nostril by raising the handle of the spoon." The liquid falls behind the glottis, and in passing over the pharynx, excites the movements of deglutition, which carry it on to the stomach. This method gives excellent results in the apoplexy of paralytic patients, in attacks of hysteria or eclampsia, when the patients are obstinate or delirious, in lunatics or in children. It does away with the active or passive resistance of a patient who cannot or will not open his mouth, or refuses or struggles against the introduction of the stomach tube. Death results occasionally from suffocation during the introduction of the tube. Injections of beef-tea and milk have also occasionally been made into the bronchi by an inexperienced hand, without mentioning the hematemesis caused by inopportune pressure of a stiff tube on an ulcerated stomach.

A liquid introduced by the nasal fossæ never causes an attack of suffocation. Dr. Salomon claims to have administered German brandy, without provoking spasm or cough, all owing to the fact that, as the liquor did not touch the epiglottis, no excitation of this organ was caused. He also claims that disagreeable medicines may be administered by the nasal route, as the nerves of taste are not disgusted, the substance used being only subjected to the scrutiny and appreciation of the olfactory nerves. Dr. Salomon contends that it renders great service in dealing with children, and that nurses should be taught to use it. Physicians are thus relieved of the inconvenience of passing the stomach tube for their patients, while at the same time the latter receive all that has been ordered for them. Physicians are familiar with the excuses given by nurses in some cases, "We could not give the medicine because the patient would not open his mouth or spat it out of his mouth."

The only objection which can be raised against this method is that at first sight it is slow and seems insufficient to provide proper nourishment for a patient. Certainly it would not be proper to introduce through the nostrils several quarts of beef-tea every day, but quality can be made to supplement quantity, by introducing in

a small volume food which will nourish a patient sufficiently, *e.g.*, yolks of eggs beaten up with milk. The operation can be done in a few minutes. Dr. Salomon, who does not claim originality in utilizing the nasal route for food and medicine, simply desires to extend the use of his method among physicians who will often derive benefit from its employment. J. J. C.

IS ICE-CREAM A FOOD?

Recently in a case brought before a Toronto court, a medical witness contended that ice-cream was not a food. The principal reason offered for this opinion was that the consumption of the congealed delicacy took away appetite. The judge objected to the force of this reasoning, and remarked that the eating of beef-steak was followed by similar results. If by the term "food" we mean animal or vegetable substances eaten for nourishment, then ice-cream is an agreeable and nourishing food. Properly made ice-cream consists of cream, milk (usually two parts by measure to one part of cream), eggs, sugar, and some flavoring extract. These ingredients are congealed in a freezer; hence the name ice-cream. As anyone will acknowledge, the nutritive value of good ice-cream is therefore very high.

It is quite true that its chilling character may prevent dyspeptic persons from eating it, and even those blessed with a robust digestion may prefer warmer food; but all the same the nutritious qualities of ice-cream are not lost by congelation. Personally, we know of a Toronto belle who, during a brief visit to Rochester, was said to have lived on ice-cream and sponge cake. Some years ago we attended a lad, one of whose fingers had been crushed in an ice-cream machine. Chloroform was administered and a portion of his finger amputated. During anesthesia the patient exhibited signs of collapse, which disappeared after he had vomited a large quantity of ice-cream. He subsequently explained that having no other lunch he had to depend on his employer's ice-cream for the mid-day meal. Usually, of course, people who eat it have partaken of cooked victuals and want something cool and sweet for dessert. It does not on that account, however, come under the same category as iced drinks.

If by the term "food" we were to understand "an aliment, which itself is sufficient to sustain life," even lean meat could not be classed as a food. Pavy's experiments prove that two rats,

weighing 12 oz., fed on lean meat and water, remained healthy in appearance but steadily lost weight, and in a month's time weighed only $8\frac{3}{4}$ oz. In another experiment two rats, weighing together 12 oz. 7 drs., were kept on a meat diet exclusively. On the thirteenth day one of the rats died, the weight of its body being 2 oz. 8 drs., and that of the other 6 oz. 3 drs. The live one was still restricted to the same food and died ten days later, the weight of its body then being 5 oz. Now, no medical witness would contend that lean meat is not a food. And further, it would not cease to be a food even if it were frozen. Ice-cream, however, is not in the same category as lean meat. On the contrary, it contains not one but all the elements of a complete diet. We therefore consider that it is a food, the only objection to its use being that it is congealed and may possibly injure the digestion of some persons.

J. J C.

DOMESTIC SCIENCE IN CANADA.

THE Canadian girl, nowadays, hates to be a "domestic," even in a mansion, and for good wages; but her renunciation of work, which is well paid for and suitable to her sex, while indicating a desire to rise in society, often proves a detriment to her bodily strength and adds little to her stock of useful knowledge.

And when she does gain the object of her ambition, and poses as a saleslady or office clerk, so that she need not soil her fingers with the preparation of food, she does not really elevate herself in the opinion of sensible people, some of her sisters to the contrary, of course. The abandonment of domestic service by women in Ontario has reached an acute stage, and has already caused embarrassments in the management of many households. Families will be placed in the awkward position of boarding out, or else the ladies will have to do their own domestic work. Looked at from the standpoint of the latter alternative, the opening of a school of Domestic Science at Hamilton is a happy omen. The young ladies of Canadian households, with that natural cleverness and adaptability which belong to highly endowed natures, have already, in many instances, performed their parts in the parlor and the kitchen. There are, to-day, in Toronto, hundreds of homes where everything that meets the eye is "as neat as a pin," and where the cooking is not to be despised, yet the ladies of the house, who do the work, never attended a lecture or witnessed a demonstration at a School of Domestic Science.

Still, we approve of the study of Domestic Science, and we hope that it will fill up some lacunæ, the bridging of which obviates domestic storms. By all means, let Canadian girls learn comparative anatomy, physiology, chemistry, hygiene, etc. The study of these subjects, particularly in their applied forms, will lend an air of dignity, in a display-loving age, to the very necessary, very decent, and never-to-be-despised preparation of our daily food and the cleansing of our homes. And when the "sweet girl graduate" becomes a wife, may she, unlike Rebecca, who served up goat's flesh instead of venison to Isaac, be content with lecturing her good man on the value of proteids, the dangers that lurk in carbohydrates, the sad results of eating the dumplings his mother used to make, and the artistic superiority of ragoût à la Hamilton to Irish stew. J. J. C.

EDITORIAL NOTES.

International Congress of Hygiene.—We notice in the *Gazette Medicale de Paris* that Surgeon-General Sternberg will represent the United States of America at the International Congress of Hygiene, which is to be held this year at Paris. We hope to be able to announce in our next issue the appointment of a Canadian representative to this meeting of distinguished hygienists.

A Fecund Cannonade.—A Boer journal of Vryheld tells a comic yarn which will bear repetition in a medical journal, as it shows the influence of terror on the animal organism. A battery of artillery wishing to have some practice with the guns, the officers bought fifty goats and had them tied on the top of a kopje. After bombarding them for an hour or so the officers went up the hill to count the surviving goats and found fifty-one! One of the goats had dropped a kid.

Destruction of Larval Mosquitos by Coal Oil.—Dr. Laveran says that the destruction of mosquitos in the larval state is more easily accomplished than when the insects are full-grown. The work is easily done by pouring a little coal oil over the surface of the water. If equal quantities of coal oil and ordinary oil are used, the former is the more effective. The larvæ are destroyed because droplets of coal oil penetrate their tracheæ and asphyxiate them.

Aspirine a Succedaneum to Salicylate of Sodium.—Aspirine, which has been tried in the service of Professor Leyden, of Berlin, by Dr. J. Wolgesmith, is an acetyl-salicylic acid obtained by the action of acetic anhydride on salicylic acid. It is a crystalline substance of a whitish color, which dissolves slowly in water at 98⅘° F., in a proportion of 1 to 100 parts, and easily in alcohol and ether. It is scarcely at all acted on by the gastric juice, but in the intestinal juice it breaks up and liberates salicylic acid. Its action in rheumatism is similar to that of salicylate of sodium, but it has an advantage over the latter in the fact that it does not cause loss of appetite and does not disturb the stomach. It is given in cachets in doses of one gramme three times a day.

International Congress of Medical Electrology and Radiology.—At the request of the French Society of Electrotherapy and Radiology, the International Congress of Medical Electrology and Radiology, the initiative of which it has taken, is connected to the International Congress of 1900. A Commission, which is composed of: Messrs. Weiss, Professor at the University of Paris, President; Apostoli and Oudin, Vice-Presidents; Doumer, Professor at the University of Lille, General Secretary; Moutier, Secretary; Boisseau du Rocher, Treasurer, and of Messrs. Bergonié, Professor at the University of Bordeaux; Bouchacourt and Branly, Professors at the Catholic Institute of Paris; Larat, Radiguet, and Villemin, Surgeons of the Hospitals of Paris; has been asked to assure its organization. This congress will take place in Paris, from the 27th of July to the 1st of August, 1900. All inquiries for further information must be forwarded to Prof E. Doumer, General Secretary, 57 Rue Nicolas-Leblanc, Lille. Applications for membership are to be sent to Dr. Moutier, 11 Rue de Miromesnil, Paris.

Thirteenth International Congress of Medicine at Paris.—The thirteenth meeting of this congress will take place in Paris, August 2nd to 9th, 1900. The Executive Committee makes the following announcement to the members of the medical profession in the columns of the *Gazette Medicale de Paris*: (1) A reduced rate of 50 per cent. will be granted on French railways to members of the Congress on presentation of a leaflet which will be mailed directly to each member. The leaflet will be valid for one month, from the 25th of July to the 25th of August. (2) Arrangements for lodgings have already been made by the Committee with the

chief agencies for lodgings and voyages of Paris. To become a member of the Congress the admission fee, $5.00, should be sent to the office of the *Gazette Medicale de Paris*, 93 Boulevard Saint-Germain, Paris. The chief editor of that journal, Dr. Marcel Baudouin, will attend to all such applications. The Executive Committee has also issued a circular to the profession in Canada through their secretary, Dr. J. F. Loranger, of Montreal, giving the terms of membership and the names and addresses of the secretaries of sections. Dr. F. N. G. Starr is the Secretary for Ontario, and he is prepared to receive the fee and issue the membership card to any physician who may desire it. Members, when remitting, should state the special section to which they wish to belong. Communications with regard to papers (title) should be sent to the secretary of the particular section to which they belong before the 1st of May, 1900.

Salicylate of Sodium in the Treatment of Orchitis.—Dr. R. Romme, in *La Presse Medicale*, writes an article on the use of salicylate of sodium in gonorrheal orchitis, which has been advocated by Dr. Picot and other physicians. He advises a preliminary purge with 40 grammes of sulphate of magnesium or sulphate of sodium. The dose which seems to be sufficient is one gramme of the salicylate of sodium four times a day. The patient is confined to bed in the horizontal position, his scrotum being supported on a pillow or a small board covered with wadding. In simple orchi-epididymitis, in which there is no notable effusion into the tunica vaginalis testis, nor swelling with pain in the spermatic cord, the happy effects of salicylate of sodium appear very soon. The testicles become less tender, are reduced in size and become more supple, and the skin over them becomes less heated and red. If the preparation is continued, improvement in the patient's condition becomes still more apparent. In four or five days it becomes difficult to tell the diseased from the sound side; on palpation, however, an indurated spot can be felt in the epididymis, which persists for a considerable time. Treatment in simple orchitis lasts eight or ten days, and the patient suffers very little pain. When there is a large effusion into the tunica vaginalis testis, or an effusion into the spermatic cord (funiculitis), salicylate of sodium is less efficacious. In such cases it is necessary to use concurrently the unguentum hydrargyri combined with belladonna, so as to promote absorption of the inflammatory exudation. Relapses should be treated by a resumption of the salicylate of sodium. In case of a relapse due to constipa-

tion, 40 grammes of the sulphate of sodium or sulphate of magnesium will act promptly in removing the disease.

Advertisements of Abortifacients.—Advertisements similar to the following frequently appear in Canadian journals of otherwise high standing:

MARRIED WOMEN If you are irregular or troubled with suppression, write to MRS. MARION WILMOT, Box J81, Bridgeburg, Ont., and she will send you the formula that will relieve the worst case in two to five days. No pain. This receipt has brought happiness to hundreds of anxious women.

A case recently tried in England (R. *vs.* Wm. Brown *et al.*) has resulted in the conviction of five persons who had been the advertisers of "female medicines." The remarks of the presiding judge are worthy of publicity and should be of interest to "proprietors, editors and printers" of newspapers in Canada who make public these advertisements, as well as the advertisers themselves. The *British Medical Journal* gives the following in its report of the proceedings:

Mr. Justice Darling in concluding his judgment said, according to the report in the *Times*: "This crime was rendered possible because newspapers accepted advertisements of this illegal business. It was desirable that it should be known that any one who incited, by whatever means, a person to commit crime himself committed crime. The jury had found by their verdict that these advertisements were incitements which were used by the men on whom he had passed sentence to the crime of abortion. If any advertisements which incited to this or any other crime appeared again, the proprietors, editors, and printers of the newspapers which made them public, would deserve to find themselves—and if any words of his had any influence with the treasury they would find themselves—in that dock; and although they pointed out no particular means for the commission of the crime, if the jury found that they did incite to crime, they would probably receive a more severe sentence than that passed in this case."

Dr. J. N. E. Brown Married.—News has reached the city that Miss Alice Freeman, who was formerly editor of "Woman's Empire," in *The Empire*, and known as "Faith Fenton," was married at Dawson, on New Year's Day, to Dr. J. N. Elliott Brown, Territorial Secretary and Clerk of the Yukon Council. John, old boy, we congratulate you.

Obituary.

THE LATE SIR JAMES PAGET.

By the death of this eminent surgeon, perhaps the leading English surgeon of his day, the medical world has suffered what may well be termed an irreparable loss. Although Sir James retired some years ago from active practice, and latterly had been but seldom seen in public, he continued to the last to take a keen interest in all that concerned the profession. At the time of his death, the 30th of last month, he was Sergeant-surgeon to Her Majesty the Queen, Surgeon to H.R.H. the Prince of Wales, and Consulting

Surgeon to St. Bartholomew's Hospital. He was D.C.L. of Oxford, LL.D. of Cambridge and Edinburgh, Vice-Chancellor of the University of London, Honorary M.D. of the University of Dublin, and Member of the Institute of France. He was a Fellow of the Royal Society. In 1871 he accepted a baronetcy, and in 1875 he was elected President of the Royal College of Surgeons. He also enjoyed the distinction of having been president of the first medical congress held in England. Both as a man and as an eminent surgeon he was regarded by his colleagues with unbounded reverence and admiration. Although bounteously endowed by nature with many sterling qualities and exceptional gifts of the highest order, the greatest of his characteristics was his astounding capacity for work, a capacity which he chiefly devoted to professional subjects. From the beginning of his career he occupied himself almost solely with the study of medical science, and took but comparatively little interest in questions not directly germane to his profession.—*The Medical Review*, London, January.

[We acknowledge with thanks the loan from the *Medical Review of Reviews*, of New York, of the half-tone of the late Sir James Paget.—ED.]

Dr. J. H. Corbett Dead.—The medical profession of Ontario received a terrible shock, on January 31st, on receipt of the news of the sudden death of Dr. J. H. Corbett, one of the oldest and most highly respected residents of Orillia. Dr. Corbett was the senior physician of the town, and had lived there from early manhood. He was not only respected by every one, but loved by very many. He was a staunch Conservative, and an active and devout member of the Church of England. He leaves a widow and ten daughters, four of whom are married.

The Late Sir Thomas Grainger Stewart, M.D., F.R.S.E.—The death is announced at Edinburgh, on February 3rd, of Sir Thomas Grainger Stewart, M.D., at the age of sixty-one years. Sir Thomas was physician-in-ordinary to the Queen in Scotland, professor of the practice of physic and clinical medicine in Edinburgh University, consulting physician to the Royal Hospital for Children, and to George Heriot's Hospital; late president of the Royal College of Physicians of Edinburgh, and an honorary president of the Tenth International Medical Congress at Berlin.—*N. Y. Med. Jour.*

The Physician's Library.

BOOK REVIEWS.

The International Text-Book of Surgery. By American and British authors. Edited by J. Collins Warren, M.D., LL.D., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital; and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital; Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Member of the Court of Examiners of the Royal College of Surgeons, England. Vol. I., General and Operative Surgery, with 458 illustrations in the text and nine full-page plates in colors. Philadelphia: W. B. Saunders, 925 Walnut Street. 1900. Price, $5.00. Toronto: J. A. Carveth & Co.

There is no science which, owing to the wonderful strides made in it almost, one might say, from day to day, is in such a transitory state as that of "The Principles and Practice of Surgery." There is hardly a month in which some considerable step forward is not made in this department, so that but a short time must of necessity elapse before a work on surgery becomes more or less old, requiring the compiling of something new in order to keep up with the general advancement. It is a welcome we extend, therefore, to "The International Text-Book of Surgery," as even after a somewhat cursory perusal we feel sure that it will receive an exceedingly warm reception at the hand, as well as from the pockets, of both American and English practitioners. Among the contributors to this book are such well-known men as J. Bland Sutton, W. G. Spencer, Maurice H. Richardson, Rushton Parker, Chas. McBurney, J. B. Hamilton, J. Chalmers Da Costa, and last, but by no means least, I. H. Cameron, of Toronto.

The work, as a whole, is thorough and complete, embracing general and operative surgery in a manner which cannot but be endorsed by the staunchest of critics. Mr. I. H. Cameron, of Toronto, deals at some length with "Surgical Tuberculosis." He states that all periods of life are subject to tuberculosis, but that the surgical aspect shows itself largely in childhood, the strumous glands and bone and joint affections occurring most frequently in this period. The bacillus tuberculosis may pass from the mother to the fetus *in utero*, giving rise to a peculiar susceptibility by the tissues of the body to the tuberculous irritant, thus affording a favorable nidus for the development of the germ. The writer states that the route by which the tubercle germ most frequently enters the system is the respiratory passage, the most likely vehicle of the contagion being dust, infected with dry sputum. The author lays stress upon the maximum amount of sunlight and pure air as being most important in the general treatment of the disease. Amongst the drugs which are most serviceable, are iron, manganese, quinine, strychnine, iodine, chlorine and phosphorus, with their potash, soda and lime salts, creasote and guaiacol, cod-liver oil and ichthyol, protonuclein and methylene blue; but Mr. Cameron adds "any or all of these in the absence of the trinity, free air, free sunshine and free nutrition, are broken reeds indeed." The author deals with his subject under several headings, and takes up separately (1) tuberculosis of skin and mucous membrane, (2) tuberculous lymphadenitis, (3) tuberculosis of the serous membranes, (4) tuberculosis of tendons, tendon sheaths and muscles, (5) tuberculosis of muscles and fasciæ, (6) of the genito-urinary organs, (7) of the prostate, vesiculæ seminales, testis, epididymis and vas deferens, (8) of the bladder, (9) of the kidney.

Another of the chapters which gave us peculiar pleasure to read carefully was that on "Operative and Plastic Surgery," by J. Collins Warren. In this section the author commences by discussing the important subject of instruments, advising which tools had best be employed for the performance of the best work. After shortly referring to Sutures and Ligatures, the Technique of Dissection and the Arrest of Bleeding, Dr. Warren goes into the ligature of the various arteries of the body, from the innominate to that of the dorsalis pedis and posterior tibial. The author devotes thirty pages to discussing the different amputations, illustrating his text with some very clear and distinct cuts, and then takes up the vario s joint excisions. Twenty pages are given over to Osteotomy, also beautifully illustrated, and the balance of the article to Plastic Surgery. This section of Dr. Warren's and the one by Mr. Cameron on "Surgical Tuberculosis" are alone worth the small price of the book, and we don't mean to be stereotyped in expression when we claim that Mr. Saunders is to be congratulated upon the work, and feel sure that he will secure for it a very large sale.

The American Year-Book of Medicine and Surgery. Being a yearly digest of scientific progress and authoritative opinion in all branches of Medicine and Surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators, collected and arranged with critical editorial comments by—

Samuel W. Abbott, M D.
Archibald Church, M.D.
Louis A. Duhring, M.D.
D. L. Edsall, M.D.
Alfred Hand, Jun., M.D.
Milton B. Hartzell, M.D.
Reid Hunt, M.D.
Wyatt Johnston, M.D.
Walter Jones, M.D.
David Riesman, M.D.
Louis Starr, M.D.
Alfred Stengel, M.D.
A. A. Stevens, M.D.
G. N. Stewart, M.D.
Reynold W. Wilcox, M.D.
I. M. Baldy, M.D.
Chas. H. Burnett, M.D.
J. Chalmers DaCosta, M.D.
W. A. Newman Dorland, M.D.
V. P. Gibney, M.D.
C. A. Hamann, M.D.
Howard F. Hansell, M.D.
Barton Cooke Hirst, M.D.
E. Fletcher Ingals, M.D.
W. W. Keen, M.D.
Henry G. Ohls, M.D.
Wendell Reber, M.D.
I. Hilton Waterman, M.D.

under the general editorial charge of GEORGE M. GOULD, M.D., in two separate volumes, one on Medicine and one on Surgery. Philadelphia: W. B. Saunders, 925 Walnut Street. 1900. Toronto: J. A. Carveth & Co. Price, $3.00 a volume in cloth; $3.75 in half morocco.

We trust that when we say that we welcome once more to our library shelves "The American Year-Book of Medicine and Surgery" we will not be understood as desiring to use a stereotyped phrase—not at all. We welcome the book because of its merit, and especially this year on account of the publisher adopting the happy idea of dividing the work into two volumes—the one on Medicine, the other on Surgery. There are many men who, in the past, would have purchased the book had it not been for the fact that the work was too general a one for them. Physicians are naturally supremely interested in medicine, whereas surgeons, on the other hand, cannot often occupy their spare time perusing chapter after chapter, which, though of great interest to them, is not exactly a part of their day's work. We think, therefore, that the publishing house will find a largely increased sale for the work in 1900. Each volume this year is just the right size for easy reading, consisting of between 500 and 600 pages. In our caption we have given the list of names of the collaborators of each volume, the first, that of the volume on Medicine; the second, that of Surgery. We are much pleased to find that our friend Wyatt Johnston, of Montreal, is a contributor to the volume on Medicine. His article consists of a chapter of nearly twenty pages on Legal Medicine. We only regret that it is not double, yes, triple, the length, as the subject is one which

the author is well able to treat of in its every detail. Dr. Johnston discusses from a medico-legal standpoint such points as the cause and varieties of rigor mortis, subpleural ecchymoses in death from primary heart failure, edema of the laryngeal folds in immersed bodies, death from tetanus, medico-legal pathology of brain injuries, differential diagnosis of traumatic and spontaneous cerebral hemorrhage and ulcer of stomach caused by trauma. He closes the chapter with a page or two on Toxicology. The section on Cutaneous Diseases and Syphilis is contributed by Louis A. Duhring and Milton B. Hartzell, of Philadelphia The plates illustrating lichen planus, liomyoma of the side of the face, lupus vulgaris before and after treatment are exceedingly good. The allusions made to Finsen's photo therapy and the therapeutic application of the X-Ray are exceedingly interesting. In writing of internal remedies in the treatment of skin diseases, the authors refer to the use of yellow oxide of mercury ointment, the use of pulvis cuticolor, naftalan, casein ointment, dry calcium sulpho-hydrate, xeroform, kresamin, tannoform, and egg albumen. The chapter on Dermatology, as all the other sections are, is short, succinct and to the point, dealing almost entirely with what is most advanced in the dermatological world. In the volume on Medicine other chapters are contributed on Pediatrics, Pathology, Nervous and Mental Diseases, Materia Medica, Physiology, Public Hygiene and Physiologic Chemistry. The volume on Surgery consists of sections on General Surgery, Obstetrics, Gynecology, Orthopedic Surgery, Ophthalmology, Otology, Diseases of the Nose and Larynx, and Anatomy. We read with great satisfaction the section by I. Montgomery Baldy and W. A. Newman Dorland on Gynecology. The few pages on Perineorrhaphy are specially good, plates 3, 4 and 5, illustrating this subject splendidly. Though the volume on Surgery is of a more general character than that on Medicine, yet it is complete and in every respect up-to-date. The work as a whole is a credit to any publishing house, and Mr. Saunders will, we trust, be amply repaid for the extra trouble and expense he has gone to in publishing in two separate volumes, by a largely increased sale over that of 1899. W. A. Y.

Christian Science. An exposition of Mrs. Eddy's wonderful discovery, including its legal aspects. A plea for children and other helpless sick. By W. A. Purrington, Lecturer in the University and Bellevue Hospital Medical College, etc. New York : E. B. Treat & Co. 1900.

We welcome Mr. Purrington's book as a valuable *exposé* of the gross absurdities of Christian Science, and as a protest against the theory "that the free right to worship according to conscience implies the right to commit any act under the pretext of religion which an evil, or erratic"—(we may add, or covetous)—"mind may inspire."

The first chapter is an answer to the questions, "What is Christian Science?" and "What are its Legal Aspects?" In the second the author quotes from Mrs. Eddy's books, "to show something of the life, pretentions, methods and literary output of this remarkable woman, leaving the reader to judge, from her own words, whether she is, as her partizans assert, learned, modest, truthful and generous; or, as her adversaries declare, ignorant, irreverent, boastful and greedy."

The succeeding chapters treating of "Manslaughter and the Law," "Christian Science before the Law," are very interesting and instructive.

The rulings in some of the cases cited are very curious. In one, where deceased, beyond reasonable doubt, lost his life by defendant's unskilful treatment, the defendant was acquitted because of his ignorance and because it was not proved that he had killed others by his treatment.

This extraordinary ruling was, however, reversed in the case where a man who held himself out as a physician, killed a woman by keeping her for three days swathed in flannels saturated with kerosene. Here the court ruled, substantially, that the standard as to what constitutes criminal recklessness, is not gauged by the actor's *belief* or idea of danger, *but* by common experience. The jury found that the kerosene was applied as the result of foolhardy presumption or gross negligence.

The author argues that whether the treatment was positive or negative ought to make no difference, as "it is just as much homicide to cause death by starvation as to use an active poison."

The ruling of a Nebraska court, quoted on page 84, seems to be good, common-sense. The defendant in this case was a Christian Scientist. When asked if he took pay from his patients he replied that he expected to be remunerated, and if the patients "are not willing to part with the sacrifice themselves it is not expected that they should reap the benefit." "Considering that defendant described his treatment as one of prayer, this intimation that the answer to prayer would be contingent on the payment of the Scientist's fee, apparently seemed blasphemous to the court," who cited from the Bible Acts viii. 18-23, and ruled: "The exercise of the art of healing for compensation, whether exacted as a fee or expected as a gratuity, cannot be classed as an act of worship, neither is it a performance of a religious duty."

The principle underlying this question, as laid down by the Supreme Court of the United States is as follows: "Laws are made for the government of actions, and while they cannot interfere with mere religious beliefs and opinions, in so far as they are merely beliefs, not reduced to criminal or dangerous practices, are not proper objects of its control."

How far the State is justified or bound to interfere in Christian Scientists' practice so as to guard the health and lives of its people, is a most important, pressing question. We commend Mr. Purrington's book to the earnest consideration of our medical brethren, as containing valuable information on the subject. J. H. R.

A Text-Book of Diseases of Women. By CHARLES B. PENROSE, Ph.D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. Illustrated. Third edition. Revised. Philadelphia: W. B. Saunders, 925 Walnut Street. 1900. Toronto: J. A. Carveth & Co. Price, $3.75.

This work has been written for the medical student or the general practitioner, who may consult a treatise on gynecology for practical guidance when treating the diseases of women. The author has not burdened his text with references to different therapeutic procedures, but, in most instances, recommends but one plan of treatment for each disease, avoiding in this way a multiplicity of methods which may be confusing to the reader. This arrangement will no doubt commend the work to students and is really philosophical, when one considers that the medical reader is not, in most cases, anxious to know all that can be written on any one subject, but rather what is essential, and particularly the safest method of treatment. So that although there has been a rather large issue of manuals of gynecology of late, we are inclined to think that for the reason just given, Dr. Penrose's book is one of the best we have seen. The author has also the happy faculty of expressing his ideas in clear, forcible language, probably the result of his experience as a teacher, which adds very much to one's willingness to accept them as true, even when they differ from one's own. The illustrations, which are quite numerous, are excellent and the descriptions given of them in the text are full and complete.

The caution regarding the use of the uterine sound (page 37) is appropriate; a physician in making well-meant efforts to measure the length of a uterus may inadvertently produce an abortion.

The chapters in which injuries to the perineum, the results of laceration, are described, are masterly. The accompanying illustrations in this part, as well as in the chapters devoted to prolapse of the uterus, are almost as suggestive as following the operations *de visu*. Trachelorrhaphy is well described and the illustrations are most helpful. The various diseases (benign and malignant) of the cervix and corpus uteri, of the Fallopian tubes and ovaries, come in for full and instructive description.

One of the most telling chapters is that devoted to gonorrhea in women. As physicians know, the far-reaching effects of this disease are often followed by results destructive to health and life. Dr. Penrose does not, however, hold

that the husband is always to blame for a pyosalpinx or endometritis in the wife, as these lesions occasionally arise from abortion or puerperal sepsis.

The persistency with which gonorrhea sticks to the vaginal glands is strongly corroborated. The writer recalls a case of gonorrhea, which continued infective though carefully treated until cured by an operation in which a large part of the right gland of Bartholin and its duct had to be dissected out. The severed tissues afterwards granulated and the excavation filled in.

The statement that a man cannot contract gonorrhea from venereal contact with a menstruating woman unless she has gonorrhea is probably correct; but the opposite opinion was pretty generally believed in, previous to the discovery of Neisser's bacillus. J. J. C.

Surgical Anatomy. A treatise on Human Anatomy in its application to the practice of Medicine and Surgery. By JOHN B. DEAVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In 3 volumes, with 400 plates. Philadelphia: P. Blakiston's Son & Co.

After twelve years of preparation a man should succeed in producing an excellent work, and Deaver has succeeded in an eminent degree, for I have before me a beautiful production in its material, in its artistic qualities, and in its workmanship.

In this volume, on the upper extremity, the shoulder, the back, the cranium, the scalp and the face, there are in all 632 pages, of which 599 are taken up with text and plates (151 in all) and 32 pages in a comprehensive index.

The work, too, is strangely free from the "American language" that differs so widely from the "English language," though there are a few terms in which the former is apparent. The text is clearly put and in most instances the description is good, though in some parts this could be improved; for example, that of the brachial plexus.

The parts of the book devoted to landmarks, and especially of the relations these bear to subjacent structures, are most useful both to the student of anatomy and to the busy practitioner. Among these is a table giving the relations the vertebral spines bear to the internal organs. It is unfortunate that in a few instances the ends of the lines in some of the plates do not accurately correspond to the parts indicated. This, though, may easily be improved upon in future editions.

The plates showing the motor areas and the lines of incision for the ligation of arteries and for the stretching of nerves are most instructive, and will prove to many a ready reference.

A unique part in the discussion of fractures and dislocations is the description of the anatomical relations of the structures in their displaced position, for this is one of the difficult things for a student to think out.

It is gratifying to one, too, to find such a clear and concise account of the "muscles of the back"—the terror of the student—for from this book a knowledge of them is grasped with comparative ease.

Throughout the work one finds considerable attention devoted to a description of muscular actions, and while it may be better for the advanced student to think these out for himself, yet the average student will not do this, and hence is very materially assisted. In fact, in the heavy work of a medical course a student sometimes is prone to forget that he should do any thinking for himself at all. Such being the case some one else has to think for him until he can get *time* to digest his material.

The publishers are to be congratulated on their production of Deaver's work.

F. N. G. S.

The Treatment of Diseases of the Nervous System. A Manual for Practitioners. By JOSEPH COLLINS, M.D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School; Visiting Physician to the New York City Hospital. Illustrated by twenty-three engravings. New York: Wm. Wood & Co. 1900.

There are several good works at present on the shelves of our medical booksellers which deal with and treat of Diseases of the Nervous System. Too

many, however, of the authors of those works have taken too much for granted and have given credit to the general practitioner for knowing really more than he does about this specialty, a subject in which, it must be admitted, there is, alas, too little knowledge among medical men who are general practitioners, and who do not pretend to adopt the more modern idea and specialize. Dr. Collins, however, in presenting his book to the profession, has given special consideration to these very facts, and though he has presumed that the average physician has sufficient knowledge to recognize the more familiar nervous diseases, yet he lays stress upon the most approved current methods of treating nervous diseases, and all through has succeeded in presenting his subject in such a manner that we feel sure that his book will be found to be in the points alluded to ahead of others already published. A good deal of attention has been given to the causation of diseases of the nervous system. We like the order in which the various diseases have been taken up, the author having commenced by considering Diseases of the Brain, including the treatment of the various forms of Meningitis, Encephalitis, Infantile Cerebral Palsies, Multiple Sclerosis, Tumors of the Brain, etc. After Diseases of the Brain, he goes on to Diseases of the Spinal Cord, including the treatment of Acute and Compression Myelitis and Inflammation of the Central Gray Matter. Then he takes up Diseases of the Peripheral Nerves, of the Sympathetic Nervous System and Functional Nervous Diseases.

We highly approve of the discussion on that altogether too common complaint, headache, and are glad that so much space has been devoted to it. We like the book very much and bespeak for it a very kind reception.

W. A. Y.

A Manual of Practice of Medicine. By A. A. Stevens, A.M., M.D., Instructor in Physical Diagnosis, University of Pennsylvania, and Professor of Pathology in the Woman's Medical College of Pennsylvania. Specially intended for students preparing for graduation and hospital examinations. Fifth edition. Revised and enlarged. Post 8vo, 519 pages. Numerous illustrations and selected formulæ. Price, bound in flexible leather, $2.00, net. Philadelphia: W. B. Saunders, 925 Walnut Street. Toronto: J. A. Carveth & Co. 1898.

The fact that a fifth edition of Stevens' Practice has been produced by the publisher would go to show that the American medical student finds the work useful. As the author says, in the preface to the first edition, "There seems to be a real need for books which present their subjects in an assimilable form."

After perusing quite a number of the articles in this work we are fairly inclined to think that he has succeeded in his task, and has presented the various matters treated of, briefly, but cogently, giving the pith of the subject without unnecessary verbiage. Perhaps this view of the merits of the work may be more apparent to a practitioner, who is familiar with bulky volumes of the "Practice of Medicine," than to a student, but the latter's case is certainly more urgent, as he has to face the inevitable examiner and must possess his knowledge in a compact, but accurate form. The chapters devoted to Diseases of the Skin and its Appendages will be welcomed by many, who desire to have a desk companion which covers the general field of practice, excepting the more important specialties. The formulæ under the head of treatment are helpful, and fairly represent modern therapeutics. The work is bound in limp covers, and when opened stays open. The text is of fair size and can be read with ease.

J. J. C.

A System of Medicine by Many Writers. Edited by Clifford Allbutt. Vol. VIII. New York: The Macmillan Co. 1900. Toronto: J. A. Carveth & Co., Canadian Agents.

The final volume of this admirable series is devoted chiefly to psychiatry and cutaneous diseases.

The summary of mental diseases, while not exhaustive, still is comprehensive, and the various subjects are treated by writers of known authority in this department of medicine.

The plates in the chapters on skin diseases are not, perhaps, as numerous or as elaborate as one might expect, but the text is all that can be desired.

In the opening pages of the volume a section is devoted to Latah, a nervous disease which has only recently found a place in works of the sort. Church cursorily mentions it by name, but Dr. Manson's description is the best which we have seen.

In Canada there will be a certain amount of interest attached to this nervous phenomenon owing to the fact of its frequent occurrence here, especially among the French of northern New Brunswick.

The writer, while spending the summer in that region, was made familiar with several cases of this condition long before he had ever heard it scientifically described, or knew that it also existed in oriental countries.

The cohabitation of brothers and sisters, like all consanguineous unions, seems to tend to degenerations of the sort among the offspring, and though this practice was usual among the ancient Egyptians, and at that time passed apparently without comment, the occurrence of the custom in the locality mentioned, among the very ignorant, would appear to have been followed by most unfortunate results. Nearly every lumber camp, we have been told, has its "jumping Frenchman" or victim of latah; and it is to be hoped that the attention which has been recently called to the disease, may prove beneficial in its subsequent suppression. E. H. S.

Polk's Medical and Surgical Register of the United States and Canada.

A corps of men is now canvassing for information for the new edition of Polk's Medical and Surgical Register of the United States and Canada. This publication is now so firmly established, so widely known and universally used as to scarcely call for any comment, as it has become standard in the profession and is a book of daily reference. It is a complete directory of the medical profession of North America and all that pertains thereto. To issue such a work is a formidable undertaking, involving a vast amount of labor, but the facilities of the Messrs. Polk & Co. are exceptional. We predict for them still greater success in the coming edition, to be issued as early this year as possible, and we cheerfully commend Polk's Register to the profession as an invaluable work of reference. Each succeeding issue has been an improvement on its predecessor, and we are promised that the next number shall be as near perfect as such a book can be made.

PAMPHLETS, REPRINTS, ETC., RECEIVED.

"A Review of the History and Literature of Appendicitis." By George M. Edebohls, A.M., M.D., New York.

Reprint from the *Medical Record*, November 25th, 1899. New York: The Publishers' Printing Company, 32-34 Lafayette Place. 1899.

"The Fourteenth Annual Meeting of the Association of Executive Health Officers of Ontario, held in the city of London on the 13th and 14th of September, 1899." Toronto: Printed by Warwick Bros. & Rutter, 68-70 Front Street West. 1899.

"Merck's Manual of the Materia Medica, together with a Summary of Therapeutic Indications and a Classification of Medicaments." A Ready Reference Pocket Book for the Physician and Surgeon, containing names and chief synonyms, physical form and appearance, solubilities, percentage strengths and physiological effects, therapeutic uses, modes of administration and application, regular and maximum dosage, incompatibles, antidotes, precautionary requirements, etc., etc., of the chemicals and drugs used in modern medical practice. Published by E. Merck, Darmstadt, Germany. 1899. All rights reserved.

Selected Articles.

ALKALOMETRY.*

BY A. S. WAISS, M.D.,
Professor of Gynecology, West Side Clinical School.

I HAVE been asked to fill Prof. Waugh's hour, he having been called out of the city for a brief visit.

I have selected Alkalometry, and the reasons for my conversion thereto will develop as we go on. Years ago, when I left the University with my precious sheepskin in my possession, the lessons of my worthy professor of materia medica and therapeutics still fresh in mind, I imagined I possessed an armamentarium that nothing could circumvent. But how sad the awakening!

Hopes were high, for wasn't each drug specially studied, labeled, and tacked to a disease it was to cure? Why, disease was to fly before it, as the mist does before the morning sun. But did it do it in actual practice as it did theoretically? And why not? This "why not" is what we will now discuss.

Have you, gentlemen, ever considered how much a physician is in the power of the druggist, how much of the physician's reputation is in the druggist's hands? Take, for instance, the brightest medical mind, a man of vast learning and erudition, a good diagnostician, in fact a perfect physician, see him at the bedside of an intensely sick person, the diagnosis at last correctly arrived at, a certain drug or drugs found necessary, correctly chosen and prescribed, what then? The ℞ is taken to a druggist, and there is where our doctor's woe begins, for our druggist happens to belong to that great class of Ph.G's, suffering from a disease known as "substitution," the greatest evil of our times, yet a boomerang, as you shall see.

Here I wish to add between parentheses, in all justice and fairness, that there are some who have not succumbed, but they are in an awful minority in this great city of ours.

The druggist scans the ℞ and finds that either he doesn't keep the drug prescribed or that he is just out of it, and it is too much bother to order a whole bottle for just one ℞, or that it would take too much time to get, or he may have something that is "just as good," or it may look just as the other stuff, taste like it, in fact could not by either smell or taste (our ordinary means at hand) be

* A lecture delivered to the Senior Class at Harvey Medical College.

detected; or the druggist may have a preparation of his own (this happens oftener than one imagines) that he wants the physician to use, *nilli villi*, whether the doctor wants it or no; or better, whether the patient needs it or no; and I will leave to your imaginations the sequel. We see our physician with his brow furrowed, bending over his patient, watching his fleeting breath, or the patient's heartrending struggles, and wonder continually why the drug he prescribed is not affecting this patient as he has been taught, and knows the drug would and should act. Why does his patient show symptoms the very reverse of those he was to expect? Why?

This is but a short review, gentlemen, of the dishonest druggist, who wilfully gives something else than was prescribed. More, a great deal more, could be said in sharper, louder, in more ringing and cutting words, for substituting is a crime. I place it among the capital crimes, for many a life has been sent into the hereafter, and the fault thereof rolled on the physician's shoulders.

So let us leave him and turn to the honest druggist, who abhors substituting, who would rather lose an ℞ than give something not called for. How about him? There are some druggists who make all their tinctures and extracts, while others buy them already made. Now what means have these latter to verify the strength of the products they bought? None. They bought them on faith, they are selling them on faith, and on faith your patients are taking them; and often, quite often, without the desired result.

Now again, as to the druggists who make their own tinctures and fluid extracts, how about them? (mind well we are speaking of the honest druggist). His pharmacopeia demands a certain quantity of a drug, finely divided let us say, a certain menstruum, of a certain strength and quantity, to be packed in a percolator, and the menstruum permitted to pass through the drug in a certain length of time, which all was done faithfully. Now how about his tinctures, or extracts—surely they are correct.

Let us see: The pharmacopeia demands that the drug shall be of certain strength, that is, that it should contain of the drug-essence, of the active principle, alkaloids in some, a certain quantity. Now what means has he to satisfy himself of the fact? None, absolutely none. He bought his drugs on faith, and on faith he made his products.

But faith is often lacking in scientific accuracy. We all know that drugs labeled under a generic name are not always of a standard strength; the variations are from *nil* to way beyond the standard, which is but an accepted average. A great many reasons can be given for this state of affairs. You may have noticed perhaps how differently the same kind of plants grow on a comparatively small patch of ground. The land may not be as rich in one spot or locality as in another, there may have been too much or too little moisture during the plant's life, the climatic conditions may have been most excellent or the very reverse, with either too

much or too little sunshine, too much or too little heat, or as it often happens, too great a variation of temperature, and all these elements and many more enter into the life and growth of a plant.

Then the plant may have been harvested too soon, or permitted to get too ripe on the stem; all these affect the active principle of the plant; so, mark me, the useful part of the plant medicinally is the active principle, the alkaloid it contains. Now what means has our druggist to satisfy himself that his drugs contain the exact quantity of the active principle, the alkaloids demanded. May not his fluid extract or tincture be absolutely inert, having extracted only coloring matter and some other inert but soluble substances from the drug, and he in all honesty dispenses an inert substance, when the patient's life may depend on the quantity of alkaloid prescribed?

On the other hand, let us suppose our drug is of the best quality obtainable, correctly grown, correctly garnered, dried and prepared; this drug may go to the other extreme, and contain more active principle or alkaloid than demanded, what means has he to verify this again so as to cut it down? None, again. So he makes his tinctures and fluid extracts that are really surcharged with alkaloids, may it not also happen to this druggist that his bottles containing his surcharged preparations, standing on his shelves, gradually evaporate? Alcohol and water are volatile, and many a stopper does not fit its bottle, and it gradually diminishes in bulk but gains in strength; for alkaloids are not volatile at ordinary temperatures, and his products become twice or even three times as strong as the standard the physician had in mind when he was prescribing.

Also let us suppose that our patient being critically ill, the doctor prescribed the maximum dose of a standard solution, and our druggist fills it out of his concentrated bottle—well, I need not dwell on the outcome, you may depict it to yourselves.

So being hit times upon times in such a manner, for what I have recounted, I have actually experienced, I came to the conclusion that therapy as we usually get it on our ℞ is a snare and a delusion; and I turned more and more to surgery, for its results were more tangible and positive. We did not have to depend upon an intermediary person who only had his gain in view, forgetting the irretrievable damage he was doing thereby, both to patient and physician. As I did not care to place my reputation absolutely in their hands, I began to prescribe less and less, and only those remedies I had to.

There are some large pharmaceutical firms in the U. S. who have, at least claim to have, chemical and analytical laboratories at their factories where each and every drug is tested, and if found to contain an insufficiency of the alkaloid is rejected, that is, is not bought by them. Now what becomes of this mass of drugs? (I have in my possession a pamphlet where one of these firms makes the claim of having rejected thousands upon thousands of pounds of

various drugs.) What becomes of all these drugs? Why, they are simply marked a shade lower than current prices and bought either by unscrupulous firms, and their names are legion, or unloaded on some poor honest druggist for him to work up.

Then on the other hand our great pharmaceutical firms, who test all their drugs first, make good products, but what vitiates it is that each firm, just to be distinct, adopts a different standard, their products are of different strengths, and how is a physician to remember all these various strengths? They disregard the pharmacopeia, claiming to improve thereon, and what happens? Doctor A— gets into the habit of using only factory X's products, so prescribes, this is to save mental wear and tear—and I don't blame him—but Dr. B— uses factory Y's products, and so down the whole line; and the poor honest druggist, honest at first, is forced to keep his shelf loaded with the products of every factory, if he wishes to satisfy every physician, an absolute physical impossibility. What occurs then? Why, it is but a short step to substitute, give some other product, or what is worse, his own decoction, and with all that follows.

The fault, the crime, lies in the cupidity of every person connected with the preparing and dispensing of drugs, of drugs that are hidden under special formulas and trade-marks, from the big manufacturing chemist to the pettiest druggist. But dark as the picture may look, yet none too darkly painted, we have the remedy at hand, and here it is:

It has been known for ages that the medicinal value of plants lay in certain fixed principles, to get which various other products were extracted perforce from the plant, such as coloring matter and inert substances, that gave to the preparation its taste, odor, etc., but were useless. Often two or more active principles were found in one plant, often antagonistic to each other and at times affecting the constitution differently, one beneficially and the other mayhap the reverse, and yet the methods employed of percolation, extraction, etc., did not take this under consideration, and could not separate them. Hence large firms sprang into existence who undertook to put upon the market the active principles, singly as far as possible, of all drugs, and allow you to combine them as suited to each case. This was advance indeed, as great as any made in other lines of medicine, and so was born the remedy for the abuses I have mentioned.

Yet other evils will be mentioned before we are through. Alkaloids and active principles bought in bulk from the factories were not available to the busy practitioner, especially of drugs where an infinitesimal quantity was needed. Nor do they make very appetizing or sightly draughts in that form. This gave me a great deal to think. I found that homeopathy would long ago have died, been buried and forgotten, were it not for the fact that the remedies they gave were so pleasant to take. And here is the main secret why, in spite of all the fallacies on which that school

is based, namely, such as these, the cardinal ones: "That all ailments without exception from ingrowing toe-nail to a case of apoplexy were due to the 'itch'!" "*that like cures like*," that is, if an attenuation of a drug given to a healthy man produces colic, a greater attenuation will cure a colic in another man; and finally "*that the higher the dilution, that is, the more infinitesimal the amount of drug, the more potent the remedy*," the potency may become so great that it may become entirely too strong for the patient to take.

This is the tripod upon which homeopathy was built, and as I have said, its survival is chiefly due to the ease and pleasantness with which their remedies or lack of remedies may be taken.

Having come to this conclusion I cast about for some means to meet them on their own ground, and this I found at last in "Dosimetry" or "Alkaloidal Medication," and further I made the discovery that we had in our very midst a factory that prepared these drugs in so palatable a form that competing with our homeopathic confreres became an easy matter, and one which at the same time eliminated the druggist evil, for it enables us all at a very small outlay in money and time to be our own druggist. Now the benefits accruing must be great to induce a physician to give time and money, yet let me assure you it more than repays. The physician's brain being his stock-in-trade, the patient has only a right to as much of it as he pays for, that is, as much as will take to relieve his ailment for which he consults his physician. Beyond this he is using what doesn't belong to him, and is to that extent stealing from his doctor, as the following will illustrate:

A patient came to me on account of some piles that annoyed him a great deal. I proposed operation; he was not ready, had no time, etc., so I gave him a salve for the time being to relieve his suffering. This salve not only relieved but actually cured him; and so pleased was he with the effect that he had the druggist give him a copy of the prescription, which he gave to every friend that suffered with the same ailment.

Some months later, meeting him on the street, he greeted me with this remarkable address: "Why, doctor, that salve you gave me was a cracker-jack. It cured me entirely, and I have given a copy of it to at least two hundred of my friends, and it hasn't failed in a single instance!" This was done by a friend in the fulness of his heart, who did not see that he was robbing his physician, his benefactor.

Some years ago, when influenza was claiming its greatest number of victims, a patient who was left with a cough received a prescription for a syrup. It cured him and it also made the round of friends who needed such a syrup. The same druggist, putting up the syrup a number of times and hearing it lauded generally, conceived the idea of putting it up wholesale, which he did, and simply flooded that part of the country with it, under a copy-righted name, using my very patients in his pamphlets and printed matter as references.

Further, substitution is absolutely eliminated, and you know positively what your patient is receiving, to a fractional part of a grain; you know what you are to expect, or should expect, from your medication. In acute cases, having your medicines with you, you may begin medication at once, losing no time, time which often is valuable and which is invariably lost if the druggist's assistance is needed. This is done chiefly to impress the buyer of the difficulty the druggist meets in compounding the ℞, hence the price asked is "not half what it ought to be," etc. You leave just sufficient medicines with your patient to last him till your next visit and no more, and rest assured, your next visit will be welcome to replenish the remedies if nothing more. You raise yourself in his esteem by demonstrating to your patient the thorough mastery you have over drugs. They have more confidence in you, and your remedies have better effect, especially when the first few doses are given by yourself. Large drug bills are saved, and this is an important item to the physician, for money thus saved is likely to be used in paying the doctor's bill.

Then you have the satisfaction of knowing that his prescriptions are prepared just as he wishes to have them. The use of inert drugs, mistakes of compounding and giving the prescription to the wrong person, are things of improbable occurrence. When the physician is also the dispenser, copies of his favorite prescriptions are not passed through the community and refilled for the benefit of the druggist and of the neighborhood; neither are his prescriptions scrutinized and commented upon. His daily business, represented by the number of prescriptions he writes, is not a subject for drug-store conversation. The nature of his patient's sickness is not exposed, and the family is no longer subjected to such questions as "what is the matter?" or "who is sick?" delicate questions under some circumstances. In short, the doctor has the control of his practice; he shields his patients from harm, the family from interrogation, and his prescriptions from comment.

About fifty years ago Prof. Burggraeve, of the University of Ghent, conceived the idea of administering in disease, according to certain simple rules, the active principles of plants prepared in granules. Because the medicines were "mathematically measured" in small doses, the name "Dosimetry" was applied to distinguish this method of prescribing from others then in vogue. It is not claimed that dosimetry is a new system or that it is a complete practice. The active principles of plants which have been used for ages in cruder form are prepared in granules. This is done for the purpose of convenient dispensing and of assuring accurate dosage. That granules contain accurate doses is evidenced by the fact that uniform results are always obtained, and fatal effects have never been observed. One of the precepts of dosimetry or alkaloidal medication is: "To acute diseases oppose acute treatment; to chronic diseases chronic treatment" (Burggraeve).

These granules represent a minimum adult dose, and in acute

diseases they may be administered every fifteen minutes, every half-hour, or every hour, according to the severity of the attack, until some improvement is manifested. The medicine should then be given at greater intervals. By pursuing this method closely it is simply impossible to overdose your patient. On this account the use of the alkaloids and other active principles and powerful drugs is perfectly free from danger. You must know that in "Dosimetry" alkaloids are not the only remedies employed, for such remedies as resinoids, glucosides, acids, salts of various metals, extracts, and various chemical combinations, and other substances, such as pepsin, iodoform, glonoin, camphor mono-bromate, etc., find also room as valuable remedies in the treatment of diseases.

The "*materies morbi*" is never lost sight of, and every endeavor is made to eliminate and to neutralize it. The cause of disease is always sedulously sought, with the object of applying treatment directly to it. This is called the "*dominant treatment,*" which means treatment directed against the cause of the disease; and if the cause is unknown, treatment must be directed against the most prominent symptom. Thus we have what is known as "*variant treatment*"; this is treatment limited to concomitant symptoms, and is discontinued as soon as relief is obtained, while the dominant treatment is continued as long as the disease lasts.

The actual dispensing of granules is an easy matter, while in very young children where a solution is needed it also can be made without the slightest inconvenience. Dr. Shaller, after many experiments, found that the dosage for children, of such drugs as aconitine, cicutine, gelseminine, veratrine, and others, could safely be given as follows: One granule for ever year of the child's age, and one more, dissolved in twenty-four teaspoonfuls of water in a tumbler, and a teaspoonful given every one-half or every hour as indicated. For a child of one year two granules; while a child of six months takes one granule in twenty-four teaspoonfuls of water, and a baby of three months, one granule in forty-eight teaspoonfuls of water.

Of such purity and efficiency have these granules been found, that some have even been given hypodermically without causing any irritation whatever, acting just as tablets specially prepared for the syringe.

SURGICAL MEASURES OF RELIEF IN STENOSIS OF THE UPPER AIR PASSAGES.*

BY THOMAS H. MANLEY, M.D., NEW YORK.

DURING the past ten or fifteen years the discussion of the etiology, pathology and surgical treatment of stenosis of the aerial passages, particularly in children, has occupied an important position in medical literature, both home and foreign.

Yet with all that has been written on this subject, it must be admitted that the profession is in anything but accord on the most appropriate measures, either prophylactic or remedial, in those maladies which jeopardize life through impending asphyxia or apnea.

It was hoped with the application of the invaluable apparatus of Dr. O'Dwyer that, at last, the most formidable obstacles in the way of treatment had been forever removed, that the scalpel and tracheal tube might be laid aside, and that hereafter relief-measures would be as prompt and bloodless as they were efficient and permanent.

But it was soon discovered that, like every other relief-measure, intubation has its limitations; that there is a considerable proportion of cases in which the perforated, laryngeal plug may, when introduced, destroy every possible prospect of recovery. Our aim should be in all cases, to occupy a middle ground—as neither too zealous partisans of the one, nor uncompromising foes of the other. Some would impose so far on the credulity of their brethren as to have them believe that intubation is the sovereign remedy when applied early and skilfully. Others there are, who have cast it aside altogether. Of this latter I saw a practical proof in the Princess Augusta's large ward for children in the Frieriechshal-Hospital in Berlin. Here their experience with intubation had been so unfortunate that they had discarded it altogether. Hence, while we all agree that divulsion of the laryngeal chink through the buccal cavity occupies an important place in surgical therapy, it constitutes but one of our resources In the controversial side of the question, it is not my purpose, at this time, to enter.

The conditions that give rise to a mechanical impediment to respiration in the upper air passages are dependent on inflammation —infectious, specific, neoplastic and traumatic.

The fundamental principle underlying every phase of treatment, of whatever description instituted, is to secure a patent air passage until nature has removed the barriers to normal respiration. To most safely accomplish this purpose we must depend chiefly on three agencies: First, on constitutional treatment, which is more or less applicable in all phases of laryngeal stenosis; second, on local medicative measures; third, on surgical intervention.

As the surgeon's aid is seldom invoked until the time is passed for internal medication, only the second and third of these agencies will be considered here.

For the first of them, there are but two substances with which I am acquainted, that possess such properties as will commend them in the majority of cases. I may add parenthetically, that unless the patient is on the border line of the moribund state, local measures should be pressed with energy for a short time before surgical intervention is resorted to.

Mercury pre-eminently occupies the first position. First, because of its well-known power as an antiseptic agent; and, secondly,

for its effects on the general system when taken up by absorption through the mucous membrane. It may be administered by fumigation—when calomel is incinerated; or through the spray—when we employ the bichloride solution of a strength varying from 1:500 to 1:3000 according to the age of the patient, its impression on the system, or the urgency of the symptoms. The objections to the employment are the possibility of paralyzing the patient or salivating the nurse or attendant. Besides, though this agent possesses active bactericide powers, it is not a deodorizer.

In many cases of an infectious or gangrenous character extending into the larynx or trachea, the ideal solution is one which is gentle and simple in its application, but energetic in action; one best tolerated and possessed of the greatest affinity for the necrotic residue of diphtheritic or other inflammatory products. To attain this end there is nothing with which I am familiar, which may be administered so continuously as the peroxide of hydrogen medicinal.

An eminent medical authority* has recently warned the profession not to use this agent in throat troubles, because, as he alleges, it may cause diphtheria itself. This view is totally at variance with clinical experience and with our knowledge of the fundamental etiology of the disease; though we must concede, if an inferior quality be used, or it is employed in too strong solution, an exudate is formed, but this exudate must be rather attributed to its injudicious employment than to any inherent power of the drug to produce such exudate. In all cases, when we employ this gaseous agent we should be assured of its purity and standard strength; hence it is my custom to employ Marchand's medicinal alone, when it can be secured. The inhaler which goes with this medicament, in my hands, in the hospital and elsewhere, has served an admirable purpose in pharyngeal or laryngeal affections. "The immense number of unsophisticated medical men all over this country whose anxiety is for new and effective remedies, and who are stimulated by these miserable surroundings" † may be safely trusted with the best and safest in the matter of chemical solutions, as in the selection of wines, meat juices, proprietary medicines or other pharmaceuticals.

When it appears futile to persist further with local applications and the symptoms of approaching asphyxia are urgent, the time has arrived for prompt surgical interference. It is well known that in tracheotomies the results following depend mainly on two factors, viz., the violence of the constitutional infection, and the manner in which the operation for relief is performed. The former is beyond our control, but not so with the latter. For, with the aid that modern surgery has placed within our reach, the technique of opening the air passages above the sternum has been greatly

*Dr. A. Jacobi, Note on Peroxide of Hydrogen, *Archives of Pediatrics*, December, 1892.

† *Ibidem.*

simplified. The elder Gross regarded tracheotomy as one of the most formidable operations known to surgery.

The dangers immediately connected with the surgical technique of a tracheotomy are:

(1) Those which have reference to pulmonary anesthesia.
(2) Hemorrhage.
(3) Shock.

With every one who has ever administered an anesthetic, or seen it given to one with an embarrassed respiration, it is needless to rehearse here the difficulties in the way. In the first stage of anesthesia the little one struggles and strangles so that the anesthetizing agent must be given intermittently. As the second stage of anesthesia is reached a deep cyanosis sets in. With the accession of the third stage the corneal reflexes are paralyzed and the asphyxia deepened so that the operator is warned to hasten on or death will quickly end the scene. But our patient is a child, and it is a matter of common observation that children, proportionately to their age, take a large quantity of anesthetics and come from under their influence very quickly. Hence, under the circumstances here considered, the circulation already toxemic must be further super-saturated with another lethal agent, and along with this, the fear of the patient's returning consciousness hurries the surgeon on with the procedure in which it is always imperative to proceed with caution and deliberation. Anesthesia is, it must be admitted, one of the positive dangers in opening of the trachea.

Without question the next difficulty in this operation is profuse hemorrhage. Here the escape of blood is dangerous in a dual capacity. First, through mortal anemia, and next through leakage into the trachea inducing fatal asphyxia, or by being sucked into the bronchial radicles and causing septic pneumonia. As the trachea in the child is deeply lodged beneath an immense net work of blood vessels which lie immediately under the skin, the deep cervical fascia and over the thyroid isthmus, the division of the deeply situated parts is not unlike the splitting of a saturated sponge. Nevertheless, if ample hemostatic precautions are observed, after the first gush in penetrating the deep cervical fascia, it will be slight and neither will annoy the operator nor endanger the patient.

In May, 1890, Paul Reclus, in the *Gazette Hebdomadaire*, published his remarkable contribution on "Cocaine Analgesia." The year preceding, Prof. W. W. Dawson had presented an able essay, entitled "Bloodless Tracheotomies."* Although Reclus reported more than two hundred cases in which he had successfully operated under cocaine, he mentioned none for tracheal stenosis. After I had carefully read the essays of both the Ohio and the French surgeons, it occurred to me that, by a combination of both expedients, the ideal tracheotomy operation was at last secured. Within one month of the publication of Reclus' essay I was favored, at the

Jour. Amer. Med. Assn., July 13th, 1892.

Harlem Hospital, with an opportunity of testing for the first time, and estimating the full value of, a surgical procedure which I have designated "Tracheotomy by the Reclus-Dawson Method."

I, personally, claim nothing for myself in connection with this invaluable device, save in evolving a new operation by a combination of analgesia with hemostasis, and priority in being the first to operate by this method and to publish its history and technique. This I did in the *Journal of the American Medical Association*, 1891.

Though I have had four opportunities of employing it in the adult, up to this time I have had but one child, an infant, on which to test its merits. This was a patient of Dr. Murray's but two months of age, which was suffering from submucous tubercular abscess of the larynx. All my patients recovered.

In a nutshell, its technique is as follows: Rigorous antiseptics; a 1 per cent. solution of hydrochlorate of cocaine hypodermically administered after Reclus' plan; the drug hypodermically employed, never to exceed the maximum dose by the mouth. I always douche the surfaces of the integument, either by a spray from a siphon of carbonated water, or else pure cold water from a height which accomplishes the same end, before I make the first incision. The cocaine injection serves a triad purpose in these cases: first, as an analgesic; secondly, as a cardiac stimulant; and thirdly, as a stypic or hemostatic. In these cases which we tracheotomize for infectious or acute inflammatory obstruction, and in which patency of the opening is but a temporary expedient, I am confident that the best tracheal tube is none at all. In this infant of two months, by passing two sutures through the divided tracheal walls on either side an ample air vent was effected.

I am confident that as the new procedure is more generally adopted, tracheotomy will regain its lost ground. For by it, when it succeeds, deglutination is not interfered with, perfect drainage is secured and the inconvenience and danger always attendant on tubation of any description, is obviated. It is unnecessary to add that by it, too, the dangers of collapse and shock will be minimized. —Published by *The Medical and Surgical Reporter.*

THE TREATMENT OF RECURRENT ATTACKS OF SPASMODIC CROUP—WITH REPORTS OF CASES.

BY MILTON P. CREEL, M.D.,

Surgeon I. C. Railway; Surgeon L. & N. R. R.; Member National Association Railway Surgeons; Member American Medical Association; Member Mississippi Valley Medical Association, etc., etc.

THERE is no affection of childhood which excites more consternation in the breast of the average mother than to awake in the night and find her infant in the throes of croup.

These cases form a large share of the physician's burdens during

the winter months, and the best means at the disposal of the profession for handling these cases should be brought to bear in every instance. The treatment I have thought best to consider under two heads, the treatment of paroxysms of croup, and the institution of such means as will tend to prevent a recurrence of another seizure. The administration of an emetic, one which acts quickly, affords us a safe and satisfactory means of overcoming the paroxysms of croup. Terpeth mineral, alum and honey, ipecacuanha and the other emetics, are all valuable. Often these are slow, however, and the physician is tempted to give an anesthetic. These are safe only in those cases where the heart and respiration are not embarrassed. A patient seen before the dyspnea is very marked, however, may be relieved by having him inhale chloroform to the point of narcosis. The giving of the patient a warm bath has been to me a means of overcoming the paroxysms that has seemed of great value. It tends to relax the patient, and expedite the action of emetics, and sleep and freedom from further attack the remainder of the night generally follows.

To prevent a recurrence of these attacks is a matter of the greatest importance.

A study of these cases, covering a large number of cases, has convinced me that the spasmodic tendency of the larynx is due to existent bronchitis, and when this is removed we shall have no further seizures.

My success in treating these cases, in bringing about a cessation of these nightly visitations of croup, has been secured by treating the accompanying bronchitis.

This treatment consists of the administration of remedies which the case in hand may suggest. I have found that in these cases the patients have a bronchitis attended with copious mucous discharge. When these patients vomit we are often surprised at the secretion of mucus that has gone on.

If these patients are poorly nourished they must have cod liver oil, and even the hypophosphites. When, however, there is no trouble on this score we should not give the remedy.

One agent which has been most beneficial to me has been the balsam of copaiba. This agent has been depended upon by me for a number of years and has not failed to bring me the most satisfactory results. I give it in doses of one to three drops four times daily to a child five years of age. I give it in an emulsion, which is sweetened and flavored and children take it without any reluctance.

This remedy is continued as long as there is any evidence of bronchitis present.

Conjoined with this remedy I have the mother have a vapocresolene lamp burn in the bedroom of the patient every night. This vapor is antiseptic and exerts a curative action on the inflamed tubes, and I have come to value it, and make it an essential part of my treatment.

The clothing of these patients should be warm, and the chest and neck must be thoroughly protected.

One point I never fail to emphasize is that these children's feet must be adequately protected; not only during the day must this be looked after, but if there is no fire kept in the bedroom then we must have the feet covered at night. This can be done by pinning the bed-clothes, or keeping stockings on through the night.

A great many mothers provide their children with long night-gowns which are heavy enough to protect the feet, and are so long that they cannot be kicked off.

L. Y., aged two and one-half years, had had recurrent attacks of spasmodic croup for the past two months. Examination revealed an existing bronchitis. This patient took an emulsion of balsam copaiba four times daily, a teaspoonful of which contained one drop of balsam copaiba.

Vapo-cresolene vapor was inhaled every night, and care was taken to have the patient provided with a long, warm nightgown to protect the child's feet.

On this treatment the patient got along well and after the second week had no further attacks of croup.

This was a well-nourished child, and took no cod liver oil.

Beatrice I., aged 2, had attacks of croup that were very distressing to her mother, and had had an attack almost every night for a month.

She was given the copaiba, and slept in a room where the vapo-cresolene pervaded the atmosphere.

On this treatment she got along well, and was discharged cured in eighteen days, and had no more attacks during last winter.

Willie, aged 4, had had attacks of croup for the past two years. Examination revealed bronchitis.

On the treatment given in the above case this patient made a complete recovery in six weeks.

This patient was not well nourished, however, and I had him take cod liver oil for five or six weeks.

These cases are briefly told, but I have striven to give results rather than unimportant, or commonplace detail.

ON THE MEDICINAL USES OF HYDROGEN PEROXIDE.*

BY E. R. SQUIBB, M.D., BROOKLYN.

(Extract.)

THROUGHOUT the discussion upon diphtheria very little has been said of the use of the peroxide of hydrogen or hydrogen dioxide, yet it is perhaps the most powerful of all disinfectants and antiseptics, acting

* Read before the Kings County Medical Association, February 6th, 1889, during the discussion on diphtheria, and published in Gaillard's *Medical Journal* for March, 1889, p. 267.

both chemically and mechanically upon all excretions and secretions, so as to thoroughly change their character and reactions instantly. The few physicians who have used it in such diseases as diphtheria, scarlatina, small-pox, and upon all diseased surfaces, whether of skin or mucous membrane, have uniformly spoken well of it so far as the writer knows, and perhaps the reason why it is not more used is that it is so little known and its nature and action so little understood. Until within the last few years, except in a few manufacturing processes, it was chiefly known as a chemical curiosity, rarely seen because difficult to make. . . .

In order to use it intelligently both the pharmacist and the physician must know something of its nature and properties. The name hydrogen dioxide expresses its composition, and its formula, H_2O_2 represents this name. Hydrogen monoxide, H_2O, or water, can under certain conditions be made to combine with a second molecule of oxygen, the result being a water-like liquid, H_2O_2.

This second atom of oxygen is very loosely combined, and the compound molecule is always on a strain to break up into water and oxygen, and when it breaks up, either slowly or rapidly, the oxygen separates in that nascent or most active and potent of its conditions next to the condition known as ozone. It is in the change of this breaking up into the water and active oxygen that the latter element exerts its power, and simple contact with organic matters, which are themselves of complex nature and in condition to be changed, is sufficient to break up the dioxide and liberate the active oxygen. For example, some albuminoids are instantly changed by contact with hydrogen dioxide, as is shown by rinsing the mouth with dilute solution, when the albuminoid matters of the secretions are at once coagulated. Then, as all virus is albuminoid, whether propagative or not, it is destroyed, or by coagulation rendered inert by simple contact with this agent, just as it is by contact with corrosive sublimate. This simple experiment of rinsing the mouth with a dilute solution of hydrogen dioxide and examining the discharge of liquid, can hardly fail to convince one of the destructive potency of this active oxygen on some albuminoids, and of its thoroughly cleansing effects upon the mucous surfaces.

Now, if diphtheria be at first a local disease, and be auto-infectious—that is, if it be propagated to the general organism by a contagious virus located about the tonsils, and if this virus be, as it readily is, an albuminoid substance, it may and will be destroyed by this agent upon a sufficient and a sufficiently repeated contact. All kinds of spray and injection apparatus can now be easily obtained with fittings of hard rubber or glass, and such only should be used.

A child's nostrils, pharynx, and mouth may be flooded every two or three hours, or oftener, from a proper spray apparatus with a two-volume solution without force, and with very little discomfort; and any solution which finds its way into the larynx or stomach is beneficial rather than harmful, and thus the effect of corrosive

sublimate is obtained without its risks or dangers. Adults and children old enough to gargle the pharynx and rinse the mouth will get a better effect in this way, equally without much discomfort, from a three-volume solution; and this applies not only to diphtheria, but to scarlatina and other conditions of the mouth and throat which require cleansing and disinfecting. As vaginal injections in cases of uterine cancer, etc., the strength must be increased until the disinfectant effect is obtained. A copious flushing out with a one-volume solution will often be sufficient. When wetted cloths are laid over external sores an over-covering of oiled silk should be used.

As, in passing through several hands after leaving those of the maker, a little mismanagement may spoil the solution, some easily applicable tests of quality and strength are needed.

So long as the solution will yield any active oxygen at all, it will give this off with active effervescence when poured onto a crystal or two of potassium permanganate. A solution containing only a quarter of its volume will give an effervescence so strong as to be misleading, and therefore a quantitative test is needed. The following is a modification of a testing process given to the writer, with much other useful information by Mr. Charles Marchand, of New York City, one of the oldest and best makers of peroxide of hydrogen, and one who supplies it to all parts of the country. . . .

If this agent is to be generally used in the treatment of diphtheria, as it well deserves to be on well-established principles of action, it is very important that it be freely applied in the earliest possible stages of the disease, or while it is yet local; and therefore the agent should be easily and properly accessible in places known to physicians, and not over a mile apart throughout the city, and in hands which know the agent well, and know how to keep it from change and to dispense it on physicians' orders.

If all pharmacists should undertake to keep it—or even all the prominent ones—it would soon share the fate of many other important medicines.

THE BACTERIA IN EXISTENCE.

MICROBES and bacteria are the bugbear of modern life. Many people are fretting themselves to death over them. They have become reasonably reconciled to dirt, extracting solid comfort from the maxim that every man must eat his peck of it, and there is the end of the matter. But microbes and bacteria? Is not their prolific power simply infinite, and to secure an honest living for their billionfold offspring must not the fond parent set up promising nests in the human organism for breeding germs of consumption, diphtheria, rabies, smallpox, and like nutritious diseases for the promotion of the health and vitality of some

species or other specially adapted to thrive on them? Filters do no good against such infinitesimal creatures. They go through filters as easily as through sieves. It is even hinted that some of them are actually invigorated by being boiled alive. And so people are at their wits' end to know what to do. To increase the nervous panic, certain eminent men of science are at this very hour coming forward with theories that seem to cut off the last avenue of escape. For example, numbers of extra careful people have, at considerable expense to themselves, got into the habit of drinking none but distilled water, while on all the ocean liners and on the warships very costly apparatus has been introduced to furnish this exclusively for their passengers, officers and crews. And now, in the face and eyes of all this, and in an authoritative medical review, the *Deutsche medicinische Wochenschrift*, comes forward one Dr. Koppe, with an elaborate article, flying the flag of the astounding pronunciamento, "Pure Water is Poison." By chemically pure water he means, of course, distilled water. That this is as distasteful to drink as the white of an egg is to eat, everybody knows. But then, what one lost in pleasure was supposed to be made up to him in health. On the score of this reconciling idea he stood ready to gulp it down. Not so, says Dr. Koppe. To get back to where it was before it was distilled, what does the water at once set to work to do? Why, to leach out of the system, and especially out of the more delicate cells, the very salts and organic matter it previously contained, and which really rendered it palatable. Under this process of assault and highway robbery, the cells perish, and the most destructive results are set on in the whole economy of the body. This is certainly discouraging. To pay out one's hard-earned money for making water chemically pure, only to find it taking a bee-line to make itself chemically impure out of the very substance of one's epithelial cells, this seems as a total abstinence man converting a tippler from his drams only to find that the tippler has seduced him into the evil habit of indulging in ardent spirits himself And now the very water which, through the fiery distilling process, was for the once rendered incapable of generating bacteria, acquires fresh organic matter, enough to feed lively colonies of them on, until, through the ferment they set up, it becomes sparkling and refreshing as Apollinaris. Every man must eat his peck of dirt. The doctrine has long been accepted and has led to great peace of mind. Every man must eat his peck of bacteria. This doctrine, though reposing on equal authority, has not yet been quietly acquiesced in, and so found to bring no rest to the soul. Not a pint of them! insist too many rebellious spirits. It is all in vain. No! the true creed to embrace is not that of perturbed and anxious warfare with an invisible foe whose name is legion, but that of the brave cultivation of a vigor of health and tide of spirits that will have enough to spare for the bacteria to get a modest living out of, and still leave a surplus for one's own requirements. Bacteria—and the

woods are full of them, not only in the infusorial, but in the social, moral, political, sectarian form—will do no harm to anyone in whose veins is circulating a full flow of ruddy blood, and in whose intellect and heart is beating a strong firm will of good. Rather will they serve, as they do in yeast, to set on a needful ferment in the dough of his nature, which, through the quantity of fixed air imparted, shall enliven his wit and fancy, his love and spirits. A life in the positive, and not in the negative, this, then, is the bracing lesson taught by the psychologists of to-day. It is a poor apple-tree, they insist, that cannot afford some sustenance to the inevitable caterpillars and still more inevitable plant life, and still retain vigor enough to bear half-a-dozen barrels of sound russets or Baldwins. In an equally bad way is the man who does not make blood enough to stand the suction-pipes of half-a-dozen mosquitos, and yet keep the reservoir full enough for private use. If a man is to feel himself drained out of all his intellect because he has fallen in with a few exhausted bores, or of all his piety because he has heard a few dull and lifeless sermons—a fig for his intellect or religion! Bores and dull sermons are a part of life, to be shed as a duck's back sheds water—to use an entirely original simile. It is lubricating matter the duck individually secretes for anointing his feathers with that keeps him warm and dry in the wet, and saves him from getting bedraggled and drawn down beneath the surface. The duck attends to the positive and simply obeys the scripture command to keep oil in his lamp. No need of his worrying about the negative. The oil duly provided, the water runs off of itself without ever soaking in. A leading philosopher made it his rule simply to refuse any attention to the tedious, commonplace, ugly side of life. What is the use of it? he argued. It merely depresses or irritates or degrades the mind. No musician ever became a musician by dwelling on discords or false notes, but by dwelling on melodies and harmonies. These trained his ear and attuned his soul for the production of vocal or instrumental beauty. If one loves harmony he instinctively sheds discord. If he loves sense, charm, wit, imagination, he instinctively sheds folly, awkwardness, stupidity, prosaic dead level. Keep the best company and all other will be repulsive. "Don't waste your time fighting bad company," said Professor William James, in one of his recent admirable "Talks to Teachers on Psychology." Spinoza long ago wrote in his Ethics that anything a man can avoid under the notion that it is bad he may also avoid under the notion that something else is good. He who habitually acts *sub specie mali*, under the negative notion, the notion of the bad, is called a slave by Spinoza. To him who acts under the notion of good, he gives the name of freeman. See to it now, I beg you, that you make freemen of your pupils, by habituating them to acts, whenever possible, under the notion of good. Get them habitually to tell the truth, not so much by showing them the wickedness of lying, as by arousing their enthusiasm for honor and veracity.—*Tor. World.*

TORONTO BRANCH OF THE WALKER-GORDON LABORATORY OF BOSTON, MASS.

BY H. P. H. GALLOWAY, M.D., TORONTO.

On Saturday, February 17th, through the courtesy of Mr. W. E. H. Massey, a number of Toronto medical practitioners paid a visit to the Dentonia Park Farm. This celebrated model farm, covering 240 acres, is situated at East Toronto, and is an ideal agricultural establishment, apparently as near perfection as scientific knowledge and unstinted expenditure of money can make it.

It was the Dentonia Milk Laboratory, however, which the visitors were particularly interested in inspecting, and a couple of hours were spent most pleasantly and profitably in examining the details of the scientific production and handling of milk.

During the past ten years sanitary science has made progress in regulating some of the more important supplies for human life. But it is noticeable that very little improvement has been made in the production of milk.

Milk, as usually sold to-day, is about as suitable a vehicle for the transmission of disease as it was before science revealed the dangers that lurk in it.

Science in the dairy has stopped at cheapening and improving the manufacture of butter and cheese. It has not been, with rare exceptions, extended to improving the milk production either of the farm or for the cities.

The milk supply of Toronto comes from nobody knows where, and, very largely, is outside the control of the City Board of Health, except as to its solid contents and gross adulterations. But the general sanitary condition of barns, milk-houses, and the transportation of milk is still practically unregulated.

Two herds of cows are to be found in the stables—Jersey and Ayrshire—and the animals are beautiful specimens of these respective breeds. The stables are model sanitary homes for the perfect care of the animals, clean and perfectly ventilated by a system which insures a constant supply of pure air direct to each stall. Manure is collected as rapidly as it is voided, and is removed twice daily 300 feet from the barns by an overhead trolley system. Liquid manures are conveyed from the stables by iron pipes with leaded joints. The cows are cared for almost like children, are fed regularly and scientifically and are kept scrupulously clean. No wonder they were so gentle and looked so contented! Each animal, before being accepted, is carefully tested with tuberculin, the test being repeated should the slightest suspicion make this necessary. Should any animal appear ill it is at once isolated and receives competent veterinary care, in fact, the herds are under the careful supervision of a competent veterinary surgeon, who presents

to Mr. Massey at regular intervals certificates setting forth the condition of the cows and their surroundings. The attendants are also regularly examined by a physician, and their condition of health reported. Before each milking the cows are thoroughly groomed and cleaned, and the attendants don white suits taken directly from the steam sterilizer. The milk as it comes from the cow is received, not into open pails, but upon a fine wire gauze strainer let into the lid, thus absolutely preventing accidental contamination with hairs or any gross filth. The milk is at once taken to the laboratory, where it is refrigerated and aerated, then bottled by the most modern scientific methods. The milk-room, stripped of its apparatus for handling milk, resembles nothing so much as the modern, aseptic, surgical operating room of a hospital. The walls are tiled, the floor is made of asphalt, kept damp; the air is filtered through gauze, and in summer is washed with spray—an exhaust fan, driven by electricity, changing the air every few minutes. The milkers are not allowed to enter the milk-room, but pour the milk into a filter, whence it passes through the wall to the solid white porcelain receiving vats inside the milk-room.

The presiding genius of the laboratory is Miss Lottie Shuttleworth, a graduate of the Agricultural Department of the Ontario Agricultural College, Guelph; she has also taken the Walker-Gordon course in Boston. In her spotless white uniform, in a place that is so much like an operating room, and with sterilizers at work close by, it is difficult for a medical man to keep from involuntarily addressing her as "Nurse."

It is Mr. Massey's ambition to produce milk that shall be practically sterile without actually sterilizing it, and the bacteriology of the milk receives careful attention. One illustration will serve to show the care that is taken to maintain asepsis; as the delivery wagons return to the farm, the baskets containing the empty bottles are immediately transferred to a large sterilizer. They are afterwards washed by hand in three changes of fresh spring water, of which there is abundant supply, and then sterilized a second time before being used. A special paraffin-coated disc is used as a stopper for each bottle. For those who desire it, sterilized or pasteurized milk can be procured in 8-oz. tubes. But to the visitors the feature of greatest interest was undoubtedly the fact that this laboratory is a branch of the Walker-Gordon Laboratory, Boston, and that modified milk for the scientific substitute feeding of infants is now available to the physicians in Toronto and within a radius of one hundred miles from the city.

This method of feeding infants artificially has been brought so prominently before the profession by Dr. T. M. Rotch, of Boston, and others, and its value has been so well established by the observation of a large number of physicians in different places, that the profession in this city are to be congratulated at now having at their service facilities for securing modified milk which are

DENTONIA MILK LABORATORY

Showing the solid porcelain receiving vats, cooler and aerater, turbine cream separator, bottle filler, bottle car, etc.

DENTONIA MILK LABORATORY

Showing apparatus for modifying milk. This room has tile side-walls, asphalt floor, glass table and shelves, and solid porcelain sink.

second to none. The milk is modified upon physicians' prescriptions only, and is delivered in tubes of such number and containing such quantity as may be ordered.

Modified milk is not a proprietary or manufactured food, but it is a method by which fresh cow's milk, while still remaining a fresh milk, is changed as to its constituent elements of fat, milk-sugar, and albuminoids to suit the digestion of infants or invalids.

Infant feeding in all its scientific forms absolutely demands a perfect milk for its basis, so that the same care should be exercised in the choice of milk for modifying as ought to be employed in the selection of a raw, whole milk for the table and the nursery. This caution is necessary because certain misinformed or mercenary persons in the Eastern States are advocating the use of "any milk so long as it is freshly milked" or any milk at all so long as it is "pasteurized" or "sterilized." No more dangerous advice can be given to mothers.

No milk is suitable for modifying, or for the nursery, that is not *quite* pure and safe. "Sterilizing" and "pasteurizing," so called, cannot make an old, impure milk valuable; but, instead, it remains dangerous for infant feeding. It is now ascertained beyond question that the chemical poisons generated by certain bacteria are as potent after sterilizing them as before. Heat kills some bacteria, but it does not destroy the poisons generated by them. If milk is sterilized after the poisons have been generated, it is as dangerous as unsterilized milk may be.

It is for these reasons that the physicians who know the most about infant feeding are so strongly of the opinion that the selection of a perfect milk is quite as important as the form of its modification.

But this is also certain, that the form of modification is equally important. It is as foolish to say that a perfect milk can be successful if wrongly or imperfectly modified, as to say that perfect modification will be successful with an unsafe milk, even if it be "fresh." The experience of the Walker-Gordon laboratories, in feeding many thousands of infants, absolutely proves that *a good milk and a good method must go together.*

In laboratory modification—modified milk—it is believed that as great a degree of accuracy should exist as is found in the production of drugs or in the filling of prescriptions for medicines, and the method is based upon two things, namely, an accurate basis in milk and cream, and a mathematical and mechanical method that admits of no mistakes in the formula plans.

Prescription-feeding, from the Walker-Gordon laboratories, has been successful as a medicine-diet for sick infants and children, but the chief uses of the laboratories have been the regular feeding of healthy infants from birth. The process is necessarily an expensive one, the cost of feeding an infant being considerably more than by any of the patented artificial foods, but the results prove this method incomparably safer and better.

Milk containing a definite percentage of fat for home modification may also be procured upon physician's order. Nearly all medical men who have mastered the subject of modified milk, as it is taught by Dr. Rotch, and who have had the service of a Gordon-Walker laboratory to help them in putting the modified milk theory into practice, are unanimous in the verdict that milk so modified as to meet as nearly as possible the needs and the digestive capacity of individual babies, represents the highest point yet attained in the substitute feeding of infants. Mr. Massey's enterprise in establishing this laboratory in connection with his farm cannot be too highly commended, and we have no hesitation in regarding it as much more a work of practical philanthropy than a commercial venture.

SURGERY IN SOUTH AFRICA.

Sir William MacCormac, the president of the Royal College of Surgeons, who volunteered his services for the South African war, sends an interesting account to *The Lancet* of his experiences with wounds inflicted by the Mauser bullet. The cases he reports are from the Wynberg Hospital, near Cape Town:

"I saw a large number of injuries inflicted by the Mauser bullet, which is remarkable for the small external wound it produces. In three-fourths, if not even a larger proportion, it was impossible to tell the exit from the entrance wound, they were so similar in appearance. Some were quite healed, but most were covered with an adherent black scab slightly depressed and saucer-like. Doubtless some contraction had taken place in healing, but the size was much smaller than the end of a leadpencil and quite circular. A few exit wounds were slits due to slight deflection of the bullets in their passage. These were already healed like an incised wound, and showed a linear cicatrix about half an inch long. Probably most of these injuries were inflicted at a range of 1,000 yards, although the men said 500 was the distance in very many instances in which they had been hit. One man, a Gordon Highlander, had his elbow smashed up into small pieces. He believed it was an explosive bullet, but it may have been a Mauser at short range, for he was hit at a distance of 300 yards. The Boers, however, use other weapons. A Martini-Henry bullet was removed from the ball of a man's thumb yesterday—an almost solitary example of a lodged bullet. They also fire hollow bullets, which would have explosive effects. The Mauser bullet weighs, I believe, about 2.3 grains. Our Lee-Metford is a little heavier, about 2.7 grains, and does not carry so far by some hundreds of yards, while the old Martini-Henry is nearly double in weight, or some 4 grains. In the wards I noticed quite a number of perforating chest wounds, and some remarkable perforations of bone without any solution of

continuity or complete fracture; in one instance there was a perforation of the shaft of the tibia at the junction of the upper with the middle third of the bone, an injury which my previous experience would pronounce quite impossible.

"There were several cases in which the bullet had entered the groin and emerged through the central portion of the buttock, the direction taken making it difficult to conceive how the femoral vessels, the sciatic nerve and artery, the femur and other important parts had escaped all injury. There were four abdominal injuries. In two cases severe hematuria followed, and the direction of the wound suggested injury to the bladder. In another the bullet entered the buttock and emerged in front a little below the ribs. In a third instance the abdomen was traversed in a similar direction. There were hematemesis and bloody stools for three days without any further symptoms. In another case the bullet apparently traversed the abdomen from the right linea semilunaris in front at a point a little above the level of the umbilicus to emerge two inches to the right of the lumbar spine. There were no symptoms in this case of any kind.

"I will mention in the briefest way some of the cases I saw during my visit to the hospital at Wynberg:

"1 Bullet entered the chest on left side close to margin of sternum, just below the sixth rib. It must have passed between the internal mammary artery and the bone near its division. The ball then traversed the lung and emerged at the tenth rib, about four inches from the spinal column; rapid convalescence—practically no symptoms; wounded on October 21st.

"2. Bullet entered just below inferior angle of right scapula, between seventh and eighth ribs probably, and emerged just below centre of right clavicle; result similar to Case 1.

"3. Bullet entered opposite centre of infraspinous fossa of right scapula, emerging through rib in front three inches below middle of right clavicle. Man had hemoptysis for a week; no dyspnea or other symptoms.

"4. Bullet entered level of fourth dorsal vertebra, about two inches from spine on right side, emerged two inches below centre of right clavicle. Man spat blood for a week; says he felt no inconvenience otherwise.

"5. Perforating wound of surgical neck of left humerus with some detached fragments. Diagram shows extent of damage clearly. The fragments were removed; patient convalescent.

"6. Wound across knee; bullet entered one and a half inches behind, and on level of head of right fibula, emerged on inner side opposite middle of internal condyle. Wounds healed; joint mobile.

"7. Bullet entered anterior aspect of thigh two inches above upper border of patella and in the middle line, emerged over the inner tuberosity of the tibia, which appeared to be grooved by it. Wounds healed, joint mobile, yet it is difficult to suppose the joint escaped.

"8. Bullet entered middle of outer side of right knee and emerged through centre of patella, causing a complete transverse fracture with about a quarter of an inch separation. The wounds had healed and the man had been able to get about, but on the previous day he had fallen and hurt the injured knee, which caused a great deal of swelling. There is no rise of temperature and he is doing well. The joint is fairly movable. This man is a Boer field cornet, Pretorius by name. He is a fine-looking man, with a cheery, pleasant face, and speaks English perfectly.

"9. Bullet entered opposite centre of patella, through which it passed and emerged opposite inner condyle, which was grooved by the ball. All evidence, save the scars of entrance and exit wounds, had disappeared, and the knee was apparently as good as ever.

"10. Scar of entrance wound immediately over the right femoral artery and two inches below Poupart's ligament. The artery can be felt pulsating exactly beneath it. The bullet then passed apparently inside the upper end of the femur without impairing the bone and emerged just posterior to the great trochanter.

"11. Bullet entered in front of, and an inch below the top of the great trochanter, which it grooved and emerged through the middle of the buttock.

"12. Bullet entered anterior surface of thigh at junction of middle and upper thirds, and, passing internally to the femur, emerged through the centre of the buttock. In none of these three last cases had any important structure been damaged, and the wounds were either completely healed or were still covered with the small black scab already mentioned.

"13. In this case the man was wounded on October 21st, and operated on by Col. Stevenson twenty-four days afterwards in the base hospital—viz., on November 14th. He was doing quite well when I saw him and three days later I heard he was practically quite well. The bullet entered from behind two inches below the fold of the axilla and emerged in front just below the anterior axillary fold. When Col. Stevenson saw him he diagnosed a damaged artery from the gradually increasing tense swelling and absence of radial pulse. He made an incision, which had subsequently to be enlarged to five inches, and after turning out nearly a pint of dark clotted blood found a large breach in the vessel where the axillary becomes brachial. When the final portions of clot were removed a formidable rush of artery blood occurred, but this was immediately controlled and both ends of the vessel were securely ligatured. When I saw the man a week exactly after the operation the external wound had healed except where the drainage-tube emerged. The temperature was normal and the general condition excellent. The wound was not quite aseptic from the start, but all went well. There was when I examined him no perceptible radial pulse.

"14. One man had four wounds in the upper extremities caused by the same bullet. It entered the arm on the outer side two

inches below, and then entered the ball of the thumb, smashed the metacarpophalangeal-joint, and finally emerged over the first phalanx.

"15. Bullet entered subcutaneous surface of tibia, a little below the junction of upper with middle thirds of the shaft of that bone. There was a clean cut perforation through the tibia, but no general fracture or solution of continuity, which is very remarkable in the compact tissue. This man says he was hit at 500 yards, but more probably it was 1,000.

"16. Bullet passed transversely across forehead about an inch above level of the orbits; the bone is deeply grooved and along the upper margin there is an elevated fracture parallel to the groove. The man describes himself as being 'knocked silly' for a time, and there was a temporary diplopia, but the wounds at each side of the forehead are healed and he claims to be perfectly well.

"17. Bullet entered right malar bone close to its junction with zygomatic process, passed almost transversely across, and emerged just above the centre of the left zygomatic arch, which it grooved. There was copious bleeding from the mouth and left ear, in which the patient is now deaf. He complained of loss of smell for a time, but this is restored. He is going about the ward, the wound quite healed, and says he is perfectly fit and well. This man was wounded on October 30th, the distance said to be 250 yards."

A TUBERCULOSIS CONGRESS.

A MOVEMENT begun last year in Chicago to organize concerted medical effort against consumption has resulted in the calling of a tuberculosis congress to be held in that city the third Wednesday of February, and to continue through the following day.

In May of last year a world congress on tuberculosis was assembled in Berlin, Germany, and the one to be held in Chicago is in a certain sense a result of the former meeting of distinguished men of the medical profession. At the Berlin congress, attended by delegates from Canada, the United States, Australia, New Zealand, Persia and Japan and the leading countries of Europe the subject was discussed under four heads: 1. Dissemination. 2. Cause. 3. Prevention. 4. Treatment aud Sanatoria.

Under the first head it was noted that statistics show that consumption was more prevalent in cities and large towns than in country districts, and that of cities London, Naples and Buenos Ayres had the lowest mortality from this disease, while Vienna, Budapest, Moscow and St. Petersburg had the highest. Most liable to its attacks are those who have the care and nursing of consumptives, those who lead sedentary lives and workers in occupations where irritating dust is constantly inhaled. The disease also pre-

vails among cattle and hogs, hence infected meat and milk are agents of dissemination.

That consumption is due to tubercle bacillus is without doubt, as is also the fact that everyone having the disease becomes to a greater or less extent a centre of dissemination—hence the value of sanitariums, of which, since the crusade against consumption started, Germany has erected eighty-three. A number are also in operation in Canada, the United States and other countries.

Among remedial and preventive agencies direct sunlight, putrefaction and desiccation soon destroy the germs, and these facts point the way to the treatment of the disease. Cities, also, in Canada and in some other countries have aided in the work of prevention to some extent by municipal regulations or directions against expectoration in public places, such as street cars, railway stations, etc. The movement has also shown the imperative necessity for better regulation of factories and other places where many human beings are crowded together at work under unsanitary conditions. Health departments have in many instances provided against the spread of consumption from articles of food by applying the tuberculine test to meat and milk. The latter should be sterilized and thorough cooking of meat is also an aid.

As to treatment the eminent specialists at Berlin congress had little new to say. The disease, of course, should be attacked in its earlier stages. Open air, sunlight, rest, and dry soil for the home, good digestion and contentment and an abundance of strong food are recommended.

It is to be hoped that the coming congress in Chicago may add at least to the general knowledge of the world in regard to the dissemination and treatment of this terrible affliction. One good effect at least will be the direction of public attention to the disease, which is one of the most destructive and also the most difficult with which medical science has to deal.—*Selected.*

Dr. Alex. McPhedran expects to move into his magnificent new residence on Bloor Street West about May next.

Dr. E. H. Stafford, of the Asylum for Insane, Toronto, who was recently granted six months' leave of absence from the Ontario Asylum Service by the Government in view of the havoc wrought upon his health by the long-continued confinement of his position in the Institution, is spending the remainder of the winter at Bocas del Toro in the West Indies, where we trust he will be much benefited by the climate and return to Canada completely restored to his wonted health. Colonel Bell, of Peterboro, has been appointed to the position vacated by Dr. Stafford.

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Original Contributions.

ON THE ROLE OF PRIMARY AND SECONDARY OSTEOPLASTIC SURGERY IN THE TREATMENT OF COMPLICATED OR COMPOUND FRACTURES OF THE EXTREMITIES.*

BY THOMAS H. MANLEY, M.D.,

Visiting Surgeon to Harlem Hospital; Professor of Surgery, New York School of Clinical Medicine.

(*Continued.*)

OSTEOPLASTY AND OSTEOCLASTY WITH ILLUSTRATIVE CASES.

CASE 1.—Primary osteoplasty. Regeneration of entire tibial shaft after compound comminuted fracture.

Early in May, 1883, a boy, aged 4, was brought into Ninety-ninth Street Hospital who had his right leg so badly mangled by a street car injury that preparations were immediately made for an amputation. All the soft parts on the anterior aspect of the leg, from below the knee-joint to the ankle, were torn widely open, and quite the entire diaphysis of the shaft was shelled out in broken fragments. (Fig. 1, diagrammatic.)

The fibula was fractured in three places, but was not exposed.

The limb was of an ashy pallor, cold and pulseless. The child had lost considerable blood, and was in moderate shock.

The mother of the child positively refused to permit an amputation.

Then the parts were thoroughly cleansed, all bleeding points secured, the shattered limb being placed in a comfortable position, well protected by antiseptic dressings and warmed by artificial

* Read at the Twelfth Annual Convention, I. A. R. S., Richmond, May, 1899.

heat. The next day, to our surprise, it was found that the circulation was fully restored in the limb, but, as noted, the entire tibia was gone, except the epiphyseal or articular ends.

It is unnecessary to enter into details of treatment, which were very simple, but record the fact that within six months the entire shaft was regenerated, without any marked shortening or impairment in the action or strength of the limb.

This case was a remarkable one in many ways, and taught me an invaluable lesson. This child's limb was saved by his mother's stubborn refusal to permit an amputation.

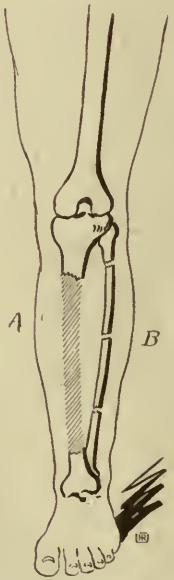

Fig. 1—Child's leg before operation.
A—Fractured Tibia.
B—Fibula fractured in three parts.

Fig. 2—After Regeneration. Showing where piece is grown in.

Fig. 3—At time of operation.

It will be noted that both articulations had escaped. The whole of the periosteum had been preserved; our patient was sound and healthy. Two years after the injury an action for damages was tried, when the counsel for the defence insisted, as the boy walked up and down before the jury, that the little fellow had suffered no permanent impairment of his limb, as he walked without the least impediment or lameness.

Case 2.—Compound, comminuted fracture of tibia with loss of more than three inches of shaft. Primary osteoplasty.

Patient, aged 37, on July 9th, 1887, sustained a compound, comminuted fracture of the left leg. After remaining at home,

under treatment, for five days, when the parts had begun to take on suspicious changes, and it was thought desirable to amputate the limb, he was sent into Harlem Hospital. At this time the case presented some gruesome features, which in pre-antiseptic times would have immediately consigned it to the amputation knife.

The foot was bloated and of a deep livid color, edema extend-

FIG. 4—Showing the parts of fragment removed of the Tibia and Fibula at time of operation in FIG. 3.

ing well up the limb. At the junction of the middle with the lower third of the leg was a compound fracture, fully two inches or more of the proximal fragment projecting out. This was of a dark, sooty color. On examination, the distal fragment was found to be fissured and impacted in the tissues. Around the entire area of the wound was a broad zone of gangrenous ulceration. The wound was suppurating freely and pressure anywhere from the knee down would cause pus to issue from the wound.

The patient, although having some febrile disturbances, was a man of excellent physique. He had no organic disease, but he was a rheumatic, and it was while suffering from an arthritis in right ankle that he fell down a flight of stairs and was injured.

After a careful study of the case, it occurred to me that we should make further effort to save the limb before condemning it to amputation. Our first attention was directed toward endeavoring to place the wound in a healthy condition; then, ten days later, radical osteoplasty was undertaken. Here we found about three inches of the tibia necrotic, but the fibula was not fractured.

Operation was begun by denuding and pressing the free ends of the fragments well out through the wound, then thoroughly clearing away all necrotic or infected tissues. The saw was now sent through that part of the shaft known to preserve its vitality. After this a segment of the fibula was removed equal in length to that lost in the tibia. Now the foot was pressed up, when both the tibial and fibular ends were solidly wired together. Heavy wire girders, with a gypsum cast, were laid on over antiseptic dressings.

The case pursued an uneventful course. The fragments solidly united with free ankle action. Following January was able to walk on street with aid of cane. In a year used no support of any kind.

This case was a remarkable one, for its time, a period when surgeons scarcely allowed their patients time to collect their senses before an amputation was pressed for.

To the inexperienced it might seem that there was no hope for this bloated limb, with a gangrenous sore and large fragments of dead bone in evidence. But the limb was saved, and two years after operation, he walked, on a wager, from Harlem to Coney Island and back, a distance of thirty-six miles, without crutch or stick, in ten hours.

It is remarkable to note here that since the accident patient has never had any more rheumatism in the injured limb.

In a younger subject, in a youth under fifteen years, we might have spared the fibula and hoped for osseous regeneration if the periosteum were preserved without shortening. There can be no question but in the adult, healthy patient left with a pseudarthrosis, the so-called flail or cushion joint, after loss of part of the central segment of the tibial shaft from fracture and disorganization of bone, osteoplastic section and splicing, offers us greater prospects of restoration of function than any variety of heterogeneous grafting.

Case 3.—Compound fracture of the tibia and fibula in upper third, with extensive shattering. Autoplastic grafting and solid union without shortening. Primary osteoplasty.

Patient, a man aged 26, was injured by slipping while dis-

mounting from a street car, when right leg was crushed by first wheel of car passing over it. The accident occurred late on a Sunday night. He was seen by me in the Harlem Hospital the following morning.

At time of examination there was found a fracture of the fibula besides one of tibia, with extensive comminution of bone. Most of the fragments were entirely denuded of periosteum and attachment to the fleshy parts, but there was one rather large triangular segment of the tibia of considerable size which had a firm mus-

Fig. 5—Showing scar and thickening at site of union.

cular attachment. After the loose pieces were removed, there remained a gap nearly two inches long. Into the centre of this was brought the large but adherent fragment, where it was fixed in position by strong wire sutures. The limb was then placed in a plaster cast, a fenestrum left over site of fracture.

Two weeks later the wire was removed, when it was apparent that free osseous proliferation was going on. After two months union was complete and the wound had closed. At this time the

entire hiatus had closed in and the surface outline of the tibia was firm over point of fracture. Full use of the limb followed.

This case illustrated the important principle laid down by Ollier, viz., that for all varieties of bone-grafting the autoplastic takes the first place, and hence, in all cases of comminuted fractures, provided the great blood trunks and nerves have escaped. Hence, we should look well to the preservation of fragments, no matter how small, which have an attachment to the soft parts, as it is through this bond the capillary vessels pass, every fragment so preserved becoming later an ossific centre for osseous regeneration.

Perhaps we make a mistake in many of these cases of even removing all the loose fragments when there are some left that are held by the soft parts. Bone tissue is slow to part with its vitality, though entirely separated from the body, and, moreover, if the replaced fragment should later necrose or undergo resorption, no alarm can come from it.

Case 4.—Fracture of tibia and fibula just below the knee-joint, with Pott's fracture below. Secondary osteoplasty.

Patient, aged 32, a locomotive engineer, injured on March 11th, 1898, in a "head-to-head" collision, was badly bruised about the body, sustained a scalp wound, and had the left lower limb so badly injured that for some days it was doubtful if it could be preserved. The knee had been violently wrenched, some of the ligament detached and the capsule lacerated, with free hemorrhage into the synovial membrane; there was a transverse fracture through the tibia and fibula, three inches below the knee-joint, with a vertical fracture through tibia, opening into the knee-joint. Besides, there was an incomplete Pott's fracture.

In this young man's case the vitality of the limb was for several weeks so feeble and the extent of tumefaction so great that no suitable adjustment could be borne. In consequence of this and the irritable, restless state of the patient when he left the bed, after four months, the lower limb was found greatly distorted, painful, stiff at the joint and useless for support or locomotion.

The knee was ankylosed at right angles, there was a sharp deflection and angular union of the fragments; the foot was turned up as in varus and ankle-joint action limited. After a time, under judicious treatment, some movement was secured at the knee and ankle joints, and the muscles largely recovered from the atrophy so conspicuous after he left the bed. Yet, however, the deformity remained, with marked limitation of motion at the knee and ankle, and paralysis of the peroneal group of muscles. The position of the limb remained so faulty that it was only a burden to him, as he had to support himself entirely on one limb, walking by the aid of crutches.

On February 11th, 1899, he was sent to New York and placed under my charge for treatment. After a careful survey of the case, noting his comparatively early age, his sound constitution, and his readiness to take any chance which promised recovery of the use of the limb, it seemed to me to be one which presented many hopeful features and justified the risk of radical measures. Two days later he entered St. Mark's Hospital and was operated upon in the afternoon.

The operation was begun by making a large, semi-circular flap with the convexity downward. This was on the inner aspect of leg, immediately over the seat of fracture. This flap was freely detached and turned upward, when the nude, thickened tibia came into view. The osteotome was then employed and a deep cleft made partly through the seat of union. After this was done on the opposite side of the leg on the same limb the fistula was exposed and deeply indented with the chisel. The limb now was brought down to the edge of the table, a sand-bag placed under it, and such force brought to bear on it as was necessary to freely refracture it at the sight of former union. It was now easy to press the lower segment of the limb into line and entirely obliterate the deformity. After osteoclasis the wounds made to expose the cleft were closed by catgut suture without drainage. The usual dressings were employed and a plaster-cast, with zinc strips, applied, extending from the ankle to the hip.

It may be added that while under ether the adhesions at the ankle were freely sundered and the foot hyperevertcd was included in the adjustment. The post-operative condition of patient and limb was exceedingly gratifying; there was absolutely no serious constitutional disturbance. Temperature never rose above 99 degrees nor the pulse above 85, and, moreover, instead of severe pain in the traumatized limb, he said that after operation it felt more "natural." On the tenth day after operation the cast was opened and complete aseptic union of the integument found. On this date he was permitted to leave the bed and move about on crutches. In six weeks union was solid, but in order to anticipate any tendency to bowing, the Tracy wood-fibre splint was worn for three more weeks. At end of the tenth week all supports to the limb were removed and he was allowed to go about, using only a cane in walking. On this date he left the hospital, although he remained in the city three weeks longer, every day up to the time of his departure for home—on the 17th of May—walking from one to three miles, with no support but a cane, mounting and dismounting from street cars and climbing stairs without any difficulty. The peroneal set of muscles were slow in recovering their tonicity, and hence it was found that a shoe with a strong ankle support made locomotion over long distances less tiresome on the

limb. He walks readily in his slippers, however, as was demonstrated at the New York Academy of Medicine, and can stand for a minute or more with the entire weight of the body on the rehabilitated limb.

Such is the history of this case. The patient came to me from Roanoke, Va., in charge of Dr. James Gale, the chief surgeon of the Norfolk & Western Railway system, to whom I am indebted for the earlier history of the case.

Fig. 6—Showing extent of shortening—3½ inches—with cork sole on shoe.

It was one of those which well illustrate the important principle of, in all cases, endeavoring to save a limb after injury, provided only vitality remains, and further demonstrates the range of application of secondary osteoplasty in badly damaged shafts.

No large bone in the body will tolerate mechanical interference with greater impunity than the tibia; it will reward us with better results after osteoplastic procedures; therefore, after many of these compound fractures of it, presenting the most hideous and forlorn aspects, provided only the main vascular trunks are

intact, resuscitation will call into activity regenerative processes and a useful limb will be preserved.

But let the surgeon have a care that he does not hurry to amputate here; if the slightest room for doubt remains, let him secure the bleeding points, cleanse, embalm the limb and wait. In many cases of grave compound, comminuted fracture no living surgeon can decide with certainty whether a limb must perish or not. Formerly to delay was to run a serious risk; now it often means the saving of the limb.

Dr. William James Fleming, in a recent able contribution on "Amputations" (*Glasgow Medical Journal,* April, 1899), deals with this phase of the subject, pointing out the judicious course the surgeon should take, and observes:

"All surgeons now save a large number of limbs which not very long ago they would have amputated. As a rule, I never amputate primarily, except when the main vessels are destroyed. I do not mean that I reserve these cases for secondary operation in the true sense of the word, or that I save them all, but I take great care to make them aseptic—as I often express it, I 'pickle' them—and after a few days can see exactly how much can be saved, how much must be removed. By 'pickling' I mean rendering and keeping aseptic. It is often very difficult to accomplish, especially the rendering. However, it is fortunate that 'dirt' is not always surgically unclean. This holds especially good with the very black material compounded chiefly of oil and finely powdered metal with which the recipients of machinery accidents and their wounds are usually liberally begrimed."

The work of Lord Lister has profoundly altered former established principles of surgical procedure, in every department of surgery, though in none has this been more salutary and far-reaching than in traumatisms of bones; in fact, the early evolution of antiseptics was first wrought out on compound fractures of the lower extremity.

Case 5.—Compound fracture of humerus with shattering of bone, from a gun-shot wound. Primary osteoplasty.

Patient, a carpenter, aged 32, was injured by the discharge of a gun, which exploded while being lifted by the muzzle out of a boat. The weapon was heavily loaded with buckshot. At time of entrance to hospital he was in deep shock, though fully conscious. The charge had entered just below the insertion of tendon of the great pectoral muscle, the arm being evidently rotated inward, and hence the blood trunks being carried under the humerus at time of injury. A large part of the deltoid muscle was torn away, the tendons of the biceps divided and the teres major partly detached. The surgical neck of the humerus was shattered, many loose fragments lying in the opening. The shot were scattered in every direction.

At first glance there seemed little hope for the limb, with so much comminution of bone and laceration of the soft parts, but the large blood trunks were intact and the cords of the brachial plexus had escaped. The patient insisted that under no circumstances would he consent to an amputation. At the primary dressing nothing was done, except to secure the bleeding points and cleanse the parts, removing at the same time all particles of clothing with a large number of shot. The limb was then embalmed and placed in a comfortable adjustment. Following day had reacted well, when all the loose fragments were dislodged, leaving an interval of a little more than two inches in the shaft. The proximal fragment was fissured in a longitudinal direction, and for more than an inch was entirely denuded of periosteum. Holes were drilled in both fragments and then the ends approximated. The wound, which had been enlarged by incision, was now closed on the ends, but left open in the centre for free drainage.

This case gave much trouble, the wound freely suppurating and large patches of necrotic tissue were thrown off. The silver wire sutures had to be removed early. After two months the parts were quite completely healed, a flail joint remaining. He later, however, by the aid of a comfortably adjusted prothetic appliance, was enabled to return to his trade. It was urged that he should submit to a later operation, with a view of endeavoring to secure consecutive union, but he was satisfied to allow the limb to remain in the state it was.

Case 6.—Compound fracture of arm, shattering of bone, multiple fractures. Primary osteoplasty.

Patient, a female, fell two stories from a window into a stone-paved area, sustaining a compound, comminuted fracture of right arm, fracture of lower jaw and two ribs. Admitted to Harlem Hospital service in same year as preceding case, 1891. The humerus was fractured obliquely, the lower fragment split in its long diameter. The upper end of the fracture exposed the musculo-spiral nerve. The ends of fragments were now sawn through, these being held with strong silver wire through their ends, and were brought well into apposition. Then the detached periosteum was carefully closed in with fine gut suture.

All the fractures did well. After two weeks the wire was removed. In six weeks a fistulous opening yet remained, at site where wire came through, and, furthermore, it was evident that there was but imperfect union. A free incision was now made, when a loose fragment was removed and the tract freely curetted. The limb was again placed in a loose felt splint and comfortably adjusted. In three weeks union was solid. As contrasted with the other arm, there was shortening of seven centimeters. This

was caused by the extent of shaft removed, and not overriding of the ends of fragments.

Fractures through the humeral shaft are well known to often unite badly. This has been said to depend in a large measure on the impossibility of effecting complete immobilization when they are high up, as the pectoralis major, being a respiratory muscle, keeps up an incessant motion of the upper fragment. But it is more probable that the truth is just the contrary, viz., that too firm adjustment and tight bandaging here, as elsewhere, impede the circulation and retard, if not wholly arrest, ossific processes. We certainly know that in various fractures of the leg which fail to unite under a rigid fixation, adjustment will often quickly consolidate if we take off the splints and allow the limb to hang unfettered.

Fractures of the Femur, Treated by Osteoplastic Methods.

The various fractures of the femur which may be treated by osteoplasty, osteorection or osteoclasis may be divided into two classes: First, compound fractures, which imperfectly unite with extensive hyperostosis; and second, those simple fractures which unite with the limb shortened and distorted.

With primary osteoplasty in compound fractures of the femur I have had no experience, as all these compound fractures coming under my own immediate care during the past fifteen years have been from railroad accidents, attended with so much destruction of the soft parts that amputation had to be performed. But though none of these cases of the first class have come under my own immediate observation after the injury, three of such cases have come under my notice—two under my own care—for secondary osteoplasty to relieve pain or resulting deformity.

Every practitioner knows well the serious aspects presented by a complete fracture through the shaft of the femur in an elderly or fleshy subject, but when the fragments have been driven out through the muscles and the skin, a very grave state of things exists.

Exclusive of the dangers from infection, there is the almost insurmountable difficulty of overcoming the contraction of the immense muscles and fixing the fragments. A large variety of mechanical devices have been invented, but we have none yet which meet the requirements better than stout wire to hold the ends of the fragments in apposition. But even this often fails or gives rise to so much irritation that necrotic changes set in and a consecutive operation is quite invariably necessary.

Case 7.—Compound fracture of left femur; faulty, defective union, with very large callus. Secondary osteoplasty.

Patient, a brakeman, aged 28, injured on July 7th, 1897. Was in some strange manner caught under the cowcatcher of a locomotive, sustaining a fracture of right humerus, a compound, comminuted fracture of left femur, besides several other severe bodily injuries. For some days after injury his recovery was doubtful. Finally, when reaction was fully re-established, a large slough formed over his right hip and free suppuration commenced at the seat of fracture of femur. It was said that the thigh and the leg were so swollen and sensitive that no description of adjustment could be tolerated for nearly a month after injury.

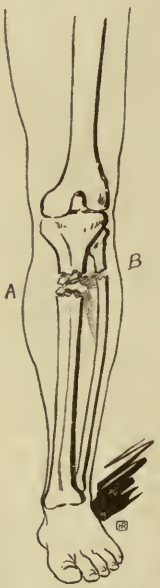

Fig. 7—Showing free and attached fragments in the wound.
A—Fracture of Tibia, one piece connected.
B—Fracture of Fibula.

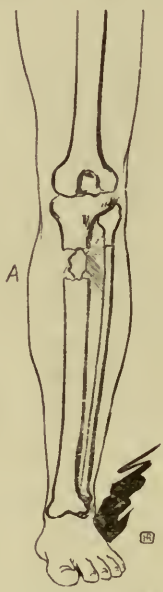

Fig. 8—Showing large fragment with extensive attachments pressed into position to fill in gaps. See connected piece (A) in tibial fracture.

Fig. 9—Showing the extreme degree of deflection at point of fracture, with inversion of the ankle.

When he left the bed, at the end of ten weeks, it was found that there was much shortening and deformity, with quite entire loss of function in the limb.

The following June, 1898, he was sent to me with directions to undertake any procedure on the limb that might improve it.

When he came under my care he was in good general health, though in a melancholy frame of mind.

His organs were all sound, the deformed painful and useless limb alone being a source of distress to him. At no time since the injury had he been able to bear any weight on the foot. The

knee-joint was quite completely locked by adhesions, the heel being drawn up and foot everted. The limb, on measurement, was found shortened 4 3-4 inches. The thigh was quite sharply bowed outward, a large lump of callus projecting outward over the seat of fracture. On a casual inspection it seemed as though there was union, but on critical examination it was evident that osseous fusion was defective, as some motion and crepidation could be detected over the site of fracture. The patient had come to the conclusion that he must have the limb amputated unless something was done that might restore its use, and relieve him of the constant pain he suffered when he undertook to move about on crutches.

Before operation, he was anxious to secure from me a promise that there was no danger and he would have a good limb. This, of course, was promptly refused. It was my opinion, however, that this was an ideal instance to test the full value of secondary osteoplasty, and one, too, from which we might hope for satisfactory results.

Operation, on the 9th of June, was commenced by pressing the venous blood up into the trunk with Esmarch's bandage and compressing the femoral artery with an elastic constrictor, carried up over the crest of the ilium, the nates and perineum. A long, deep incision was then made over the outer aspect of the callus, in the long axis of the limb. Then the large hyperostosis was freely denuded. We had not proceeded far before it was evident there must be a large loss of blood, and that the condensed, massive callus had contracted very deep and firm adhesions with the sciatic nerve and the femoral vessels.

The elastic constrictor but very imperfectly controlled the circulation, and the new bone elements were exceedingly vascular, so that on their detachment blood issued through in alarming quantities. The greatest difficulty came through the removal of the inner segment of the callus, which lay immediately under the femoral artery, and was penetrated in various directions by large vessels passing deeply into its substance, the ends of the fragments being loosely held together by the callus. The fracture had been quite transverse, one fragment riding over the other. The distal fragment was softened by interstitial changes. Of this 1 1-2 inches were cut away with an osteotome. About half an inch was removed from the end of upper fragment. After this the ends of fragments were drilled and easily brought together and retained by a thin wire suture. The wound, except at the lower end, was closed, abundant dressings applied and all covered by a plaster-of-Paris casing. During the latter stage of the operation hypodermoclysis of a half gallon of warm salt solution was employed, and I am convinced it averted mortal anemia.

This young man made an excellent recovery, the ends of the fragments remaining well in place, a mass of fibrous tissue forming around them. This latter underwent so much resorption that the continuity of the shaft's surface was comparatively even. The wire was left *in situ*. The degree of union was quite perfect when he left the hospital ten weeks after the operation. As the limb remained somewhat weak when the entire body's weight was thrown on it, a strong leather sheath and brace were applied. To compensate for the shortening and the tendency to eversion of the ankle, a specially raised and braced shoe was made. He is now a switchman and only uses a cane when he walks a long distance.

M. Ollier notes the general unsatisfactory results following

Fig. 10—Photograph after recovery, showing degree of restoration of outline, a remaining degree weakening of peroneal group of muscles and tendency to inward inclination of the foot, near the heel.

osteoplastic operation on the femur after fractures, and hence the reason why the remarkable extent of recovery of function in the case just recorded must be regarded somewhat as an exception to what we may expect, though it will be observed it was not a primary case. Two instances have come under my notice which had been treated in the service at Harlem Hospital, for compound fracture of the femur; one, my own case, secondarily, to remove a large eroded wire, with necrotic bone. The sinuses closed after this, but union remained defective. In the other case the sharp, projecting ends of the fragments were sawn away and the limb adjusted. No union resulted, and later the limb had to be amputated.

Discussion.

Dr. Milton Jay: Prof. Manley has spoken of many interesting subjects relating to bone surgery, and during the past ten years more advancement has been made in this line than in any other department of surgery. In regard to the position of fractured bones, it is not particularly necessary that the fragments be nicely approximated for the first few days. As a rule, the position most comfortable to the patient, without too much angular deformity, is often better than an attempt to nicely adjust the fragments immediately, provided always that we have made a correct diagnosis as to the nature of the fracture, and the relative position of the fragments, so that at the proper time we will have to do no more than adjust the fragments and secure fixation. In order to make the exact diagnosis of some cases of complicated fractures, although they are not compound, it becomes necessary to make an external opening, in order not only to correctly diagnose the fracture, but to remove a tendon, a nerve, or shred of muscle or blood vessel that has become imprisoned between the ends of the fragments, and would prevent, or at least delay, bony union; or to evacuate from the fractured limb effused fluid or large quantities of blood, which, if allowed to remain, must suppurate.

In these days of antiseptic surgery we have no dread of external openings in fractured limbs; particularly is this true if we can get a better understanding of the nature of the injury. When the proper time comes for bony union to take place, I very much prefer to nicely adjust the fragments so that the limb will be in normal position when bony union is complete, than to give no attention to position until bony union has taken place, and then resort to an operation to straighten the limb. We should keep a close watch on all fractures for a time after they seemingly have united: the callus has not become osseous, and after all fixation has been removed one set of muscles will contract more than the counteracting set, and the limb will bend or crook at the seat of fracture. We only need to continue fixation for a longer time, in such cases, to prevent deformity. In a comminuted fracture, where the bone is broken in two or more places, making three or more fragments, you will find it seldom, if ever, that two or more fractures in the same bone unite simultaneously; almost complete union of one fracture will take place before union of the other has no more than just commenced. The distal fracture may unite first, or the proximal. In old cases of delayed or non-union of fractures, a limb should never be sacrificed unless there is no alternative; resect, remove a portion, shorten, or resort to almost any expedient, but save as much of the limb as possible. When it is

necessary to remove a portion of the shaft of a long bone, provided the periosteum is intact, it is frequently not even necessary to shorten the limb, but fill the interstice from which the fragment has been removed with declarified bone-chips or some other aseptically prepared porous substance, and the periosteum will fill the gap with new bone. In fact, nature will do almost anything we ask of her in bone repair if we only treat her fairly.

As to the osteoplastic operations referred to by Dr. Manley, for the relief of the various bone deformities, they are correct, and embrace many of the interesting and valuable operations in surgery, and as the relief from an unsightly deformity is always appreciated by the sufferer, it is no detriment to the surgeon to be able to perform those (the most of which are not very difficult) operations in surgery. Nothing is more unsightly to the eye of a surgeon than a crooked and deformed human being, and it is for the relief of this class of suffering humanity that Dr. Manley's paper has been treating.

Dr. A. I. Boufflcur: In listening to this paper, I have felt that we have had the subject pretty well presented, but there seems to be something of a tendency to magnify the difficulties in regard to treating fractures. My purpose in rising is simply to emphasize what I believe to be the important feature in the treatment of fractures, and that is, above all things, that we should apply that element which is not always present, namely, common-sense. We hear of cases of one sort and cases of another innumerable, and while it is true that upon different cases depends our practice, yet while cases differ in their details, the results will be practically the same if the principles underlying all cases of fracture are carried out. Fracture should be treated on principles and not on notions—principles as to position, principles as to preservation and protection of injured tissue, and not after the notion of some individual operator. For instance, the rule which Dr. Jay has mentioned in regard to never moving the limb till you see what nature is going to do, is all right as a principle, but, like all rules, it has a number of exceptions. It is my own habit not to perform primary operations, yet at the same time one of the conclusions which I presented to this society a few years ago was that we should attempt to preserve injured limbs, provided we could keep them aseptic. There are a number of doctors present who have attempted to save limbs, and there have been funerals in that vicinity. I, too, have had that experience, in which attempts have been made to save limbs until the line of demarcation has been formed, and that has been formed when it was too late to save the patient. Save limbs if we can, but do not save them too late. Dr. Jay said something about amputation just in time; that is a dangerous proposition, as we are not all able to know just when

that time is. If you do not operate in time your patient will be dead.

As to the treatment of fractures it seems to me we are going a little too far when we say that the position of the limb has nothing to do with the case in primary treatment. I do not believe that, as there are so many compound injuries, where it is not so much the question of the patient as the local area of soft tissues. In this case we should so place the limb that the circulation of the blood in that particular area would be favored; be it straight or crooked, the limb should be bent and the practice should be to favor the circulation. If it is the anterior part of the tibia, bend

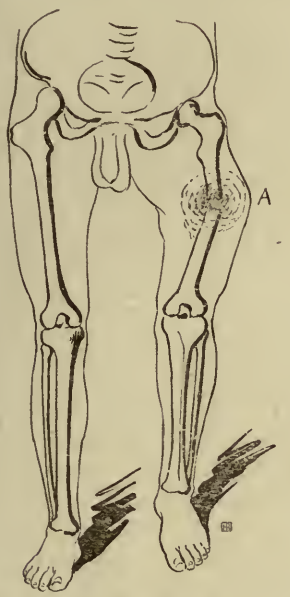

FIG. 11—First part fractured (see A). Site of fracture, extent of hyperostosis and shortening.

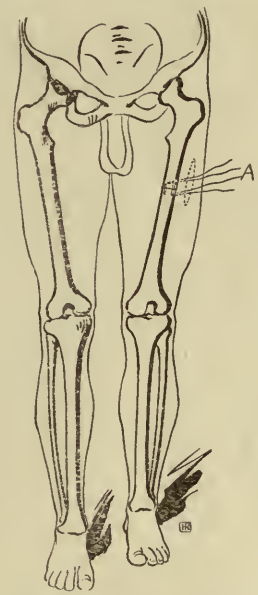

FIG. 12—Case 7 after operation.

the tibia and make a kink in it anteriorly to relax the skin until the circulation of the part has been restored; this is common-sense. If you hold it perfectly straight, the swelling which would occur incident to the traumatism would naturally result in the necrosis of that part. I think you will recall instances of that kind when the perforation through the skin occurred not on the first day, but two or three days after the injury from pressure on the necrosed parts. I look on angular deformity, when it occurs in my own practice, as improper treatment on my own part. I know this is something which it is not usual to own up to—mistakes which you make yourself; it is rather customary to apply the mistake to

the other fellow's case; but we all have cases where there is not a perfect position, and that is particularly true of those in which the other part of the femur is involved. One of the earliest results in my treatment of fractures, which I thought were at all poor, was in the upper part of the femur. I failed to appreciate then, as well as I have since, the fact that you have little control of the upper third of the femur. Our rule should not be to pay attention to the upper part, but put the limb in a position which corresponds with the upper part. If you have a fracture in this case you will have to dress the other portion of the limb in a vertical position. If it is the upper third you will sometimes find a fragment projecting upward. I saw a case in which a doctor had treated the lower part of the limb perfectly, but it was off at an angle; the lower was perfectly straight, but there was recovery with an angular deformity. The doctor should have put the lower axis of the limb in the same direction as the upper one; you can do it in most cases of injury to the thigh. If you cannot bring the two together in the dressing you can in the position, and the long fragment should be put in line with the short one, and not *vice versa*. The older members will probably recall some of the older teachers of surgery advising the placing a pad on the upper fragment to keep it down in position. There will be few cases of gangrene resulting from that.

The secondary osteoplastic operations are particularly interesting. I have my doubt about the general use of the term "osteoplastic operations," but its use for secondary procedure is generally recognized and there is no question at all but what we should utilize it much more frequently than is done at present. It is the field of surgery which all of us, as we practise aseptic surgery, should practise on orthopedics and in certain deformities. All of us should practise the art of correction of deformities, which can be done as well, I think, by the general surgeon as by the orthopedist.

Dr. Manley (closing the discussion): I realize that Dr. Jay is very well up in osteoplastic surgery. There is one thing in which he seems to have misunderstood me; that is, about the incision. The position I took was that the incision made merely for the purpose of diagnosis in fracture was not justified. The doctor's argument has not at all touched that position. The doctor has simply shown that where he believed there were blood-clots, to cut down and remove the blood-clots is a therapeutic necessity, which is entirely proper. Every time that we have doubts about the character of a fracture, an exploration of the part is desirable; but I doubt if it is justified on the grounds of diagnosis solely.

There is one thing that cannot be too clearly emphasized. I knew a physician some years ago who had his house staff make the

autopsies. He visited the dead house and always wore kid gloves, and he was satisfied with what he saw to establish his opinions or conclusions as to the pathological changes; but pathology cannot be learned with the eye; it must be learned with the fingers also. The doctor described a case where he saw a discolored foot, and a careless physician would say that it must come off; but the trained surgeon does not trust his eyes alone—he puts his hand on the limb and finds its warm. The fact was that there was nothing seriously the matter with the limb, and it was restored.

I thoroughly coincide with the remarks of Dr. Bouffleur. There is one thing, however, to which he seems to attach too much importance, which has led us into much trouble and which we will have to unlearn; that is, this bugaboo about asepsis. If the doctor will read the contribution which I speak of, from a Scotch surgeon in the *Glasgow Medical Journal* of last month, he will find a case where all kinds of grease and dirt got into an injured limb; but while it is chemical dirt, it is not septic dirt, and the limbs make splendid recoveries. If the patient has a good constitution to work on, you will be all right. This thing about asepsis is overwrought, and it has been one of the theories which has led to much confusion. I learned from a young surgeon today that he was mixed up on this question of asepsis. I do not count chemical asepsis of importance at all if the patient's general condition is good and you can keep the part clean. With reference to the angular deformity, I am very sorry for the doctor (or any other gentleman whose practice is generally restricted to surgery) that he has had to reproach himself because he should not knowingly discharge a patient with an angular deformity. I have seen a few cases from the hands of reliable practitioners, who assured me that they discharged their patients with limbs practically symmetrical, where the extent of the angular deformity was five or six inches, and I gather that the patients were rickety or syphilitic, or there was something defective in the process of consolidation. I think we will have to view it in that light, unless we are prepared to prove our premises before a jury in a civil suit. It may be sometimes due to careless treatment, but in a great many the trouble is constitutional, and the physician is not responsible.

COMPLICATIONS OF SUPPURATION OF MIDDLE EAR.*

BY J. M. MacCALLUM, M.D., TORONTO.

In discussing the complications of suppuration of the middle ear, I shall confine myself to the affections of the mastoid.

The mastoid commonly contains a large number of air spaces communicating with one another, continuous through the antrum with the middle ear, and lined by the same mucous membrane. Indeed, the middle ear is not a separate structure, but, like them, merely an air space in the temporal bone. This continuity of structure and of situation necessarily leads to their frequent involvement in the suppurations of the middle ear. Their position and small size renders it almost impossible for pus to escape from them, and there results an abscess in the bone—originating, in the acute cases, very frequently, not in the antrum but in the smaller and more dependent spaces. If an acute abscess be not formed, there is left behind granulation tissue which, lining the cavities, especially the antrum, keeps up a chronic purulent discharge from the ear, and may at any moment lead to acute abscess. An abscess here, as in other parts of the body, makes its way out where it finds the least resistance. That way out may be the external cortex of the mastoid—the typical mastoid abscess; it may be the superior cortex, the pus opening into the fossæ of the skull, producing meningitis or cerebral abscess; it may be the posterior wall, the sigmoid sinus being attacked, with resultant thrombosis and the septic diseases which follow in its train, or the pus may cause meningitis at the base, and cerebellar abscess.

Which one, or how many, of these results an abscess in the mastoid may produce, no one can tell by any means other than exploration of the mastoid. The mere appearance of an abscess on the external surface of the mastoid is no guarantee, though it is too often assumed to be, that the pus has not at the same time made its way into the cranial cavity. Yet, any or all of these serious complications may arise without any so-called abscess formation in the mastoid. Indeed, it is when there are no noteworthy symptoms, no outward signs save a long-continued, it may be intermittent and scanty, discharge, that they seem most likely to occur.

The narrow barrier of bone which walls off the cranial cavity yields readily to the erosive process, even were ready paths for

* Read before Toronto Medical Society.

infection not presented by the sutures and many minute foramina through which vessels and nerves pass from the middle ear and the mastoid spaces to the fossæ of the skull.

Should the chronic process cause sclerosis rather than erosion of the bone, the danger is but increased, for the hardened bone offers greater resistance to the external exit of the pus. In such cases cranial infection is most likely to occur, for experience shows that when sclerosis attacks the mastoid process erosion is likely to occur in the roof of the tympanum.

Scarlatinal Otitis Media—Intermittent Suppuration for Six Years—Thrombosis of Sigmoid and Lateral Sinus—Operation—Meningitis—Death.

Olive R., aged 9. Scarlet fever at three years, and intermittent discharge ever since from both ears. Five days ago the discharge ceased, and she complained of pain across the forehead, in the right ear and behind it, vomited about every half hour and had chills, bowels normal, some edema over right mastoid, and tenderness on pressure along the sterno mastoid muscle. Dr. Britton diagnosed mastoid abscess and sinus thrombosis, and sent her into the Children's Hospital, where she came under my care. There was then some slight edema over the mastoid and tenderness on pressure, a line of deep tenderness and induration along the border of the sterno mastoid in its upper third. Optic discs and pupillary reactions normal. She showed considerable irritability when any attempt was made to examine her. Temperature, 104; pulse, 136; respirations, 24. Some slight discharge was found in the external meatus.

Assisted by Dr. Britton and Dr. F. N. G. Starr, I opened the mastoid. Half an inch posterior to the external meatus and on a level with its centre was a fistula in the mastoid, from which welled up very foul watery pus. At the bottom of the abscess cavity there lay a blackish yellow linear mass, the sigmoid sinus. The antrum was then exposed, the aditus enlarged to give free entrance into the middle ear, and the attic scraped. The sinus was then exposed more fully and found collapsed and empty down to the jugular bulb, while its upper portion was filled with a hard blackish grey thrombus. The bone was then removed along the upper portion of the sinus, showing the mastoid vein to be thrombosed, and the thrombus in the sinus itself to extend around the knee into the lateral sinus. The sinus was split open, and with a curette passed along it, in the direction of the torcular Herophilii, the thrombus was scraped away until the blood flowed freely.

It was evident that there was a thrombus in the jugular bulb or in the vein in the neck, for pressure upon it in the neck did

not cause any blood to regurgitate into the proximal portion of the sinus. I was overruled by my colleagues in my desire to attack the vein in the neck, and the operation was concluded in the ordinary way. Pulse, 120; respirations, 26.

During the afternoon the patient was restless but fairly comfortable. Towards evening she suddenly became worse, the head drawn towards the left, eyes turned to the left, respiration irregular, mouth drawn outwards, slightly upwards and to the right, convulsive movements of arms and legs, meningitic cry—death.

The sudden cessation of discharge followed by pain in the ear and head, vomiting and chills, are symptoms which may indicate the supervention of sinus thrombosis, abscess of the brain, or meningitis. In thrombosis, the chills are usually both more frequent and more severe, the temperature higher, and the pulse more frequent than in brain abscess. The diagnosis was also strengthened by two other facts, viz., the line of tenderness along the edge of the sterno mastoid, due to involvement of the external jugular, and the slightness of the edema, for mastoid edema is less in thrombosis than in true mastoiditis, because in the former case it is mechanical, while in the latter it is inflammatory. The great difficulty in diagnosis is that with the otitis there may be not mastoid abscess alone, but mastoid abscess combined with sinus thrombosis, brain abscess, and meningitis, any one or all of them. The thrombosis may obscure both the abscess and the meningitis, so that it is wise to give a guarded diagnosis and a very guarded prognosis. Meningitis differs from thrombosis in that the temperature is constantly high—there are no remissions in it. If basal, it will manifest itself in the retraction of the head and neck, and in involvement of the intracranial nerves.

When one thinks how close the sigmoid sinus lies to the infected middle ear, antrum and mastoid cells, and how freely the minute veins of these areas communicate with it, one wonders not that it becomes thrombosed oftener than any other sinus, but that it escapes so frequently. In this case nearly six years elapsed before infection reached the sinus—six years during which the only sign of disease was a discharge from the ear, so slight as to cause practically no uneasiness to the parents and no inconvenience to the patient.

One may conclude that the sinus was exposed by a gradual process of erosion, and then infected, but the sinus may at any time be infected while yet a thick, hard mass of bone lies between it and the infected middle ear or mastoid spaces. Infection, then, travels along or within the minute veins of these areas, which communicate with the sigmoid sinus. For this reason, I believe that no mastoid operation—certainly none in chronic mastoiditis—is complete until the sigmoid has been exposed and its condition

accurately determined, as well as that of its groove. Another reason for advocating this procedure is that the sinus may, though patent, be a source of infection, that is to say, the thrombus may not completely occlude the lumen of the sinus, or a channel may have reformed through the occluding sinus. In either such event, there may readily exist in the sinus a focus of infection without any marked signs of venous obstruction, but merely the systemic phenomena.

Acute Mastoiditis—Leptomeningitis—Death.

Ethel E., aged 6. At the end of June, 1899, had high fever and great pain in her left ear. After two days the ear began to discharge, and has run freely ever since. On the evening of July 31st, there appeared swelling in front of and behind the ear—the meatus itself filled with thick, yellow pus. She was sent to the hospital on August 1st, when temperature was 102, pulse 105, respirations, 30.

Operation, August 2nd, disclosed pus making its way out of a sinus in the mastoid cortex, 1-2 inch posterior to external meatus; in cleaning out the abscess cavity, the sigmoid sinus was exposed for an inch and found to be covered with granulations, but as there was no evidence of any disease within it, it was not opened, but the granulations removed with iodoform gauze; the operation was then finished by cleaning out the antrum.

I was called out of town early next morning, and did not see the patient again until a few minutes before her death. The house surgeon noted on her history paper that she had a very good night, but in the morning her temperature was subnormal, 95 F. At seven, the note is that she had been very quiet all day. Temperature, 97.3; pulse, 130; respirations, 34. At half-past ten the patient was seized with vomiting, and immediately afterwards the respiration changed, there was spasmodic twitchings of the arms and legs, especially of the extensors; head was drawn towards the right side; pupils contracted, but responded to light—no strabismus.

I saw her about an hour later—there was then some rigidity of the muscles of the neck. The respiration was a modified Cheyne-Stokes, viz., a deep sighing breath, a shorter one—a still shorter and shallower one—then a long pause—a deep breath again, and so on repeated. McEwen tells us that this form of respiration occurs in suppurative leptomeningitis when the cerebellar fossa is involved, or when the meningitis affects the medulla in the fourth ventricle. The rigidity of the head and neck, and the muscular twitchings, confirm the idea that meningitis had spread over the base of the brain and involved the medulla and cord.

Subnormal temperature usually indicates brain abscess, but *post-mortem* examination has shown it to occur when there had been meningitis alone.

Bilateral Mastoiditis—Left Facial Paralysis.

Female, aged 2. Scarlet fever in December, discharge from both ears. Mastoid swelling on right side. Mastoid opened and scraped out, during which the dura mater was exposed in posterior fossa. Temperature remained at 104 after the operation. The scalp around the wound became infected, thickened and red, but the infected area was so small that one could scarcely think it the sole cause of the pyrexia. In trying to examine the eyes, it was noticed that the child could not close the left eye, the left cheek was flaccid, the labio-nasal fold obliterated. Fluid ran out of the left angle of the mouth. When the child cried, the mouth was drawn to the right. There was no paralysis of the arms or legs.

The question at once arose, Was the facial paralysis cortical or was it due to disease in the left ear? Had the right mastoid abscess affected the cortex and face centre? Against the idea of brain abscess was the fact that the temperature was high and the pulse rapid. There were no other signs of meningitis, optic discs were normal. On the other hand, there was on the left side no mastoid swelling, no sign of tenderness on pressure, but the discharge from the left side had almost stopped. The bone over the right temporo-sphenoidal lobe was removed, but there were no signs of any morbid process there, so that attention was turned to the left side. At the first incision into the bone, granulations were exposed. These were removed and the antrum reached. The granulations being scraped away, the aquaductus Fallopii was found open, just where it passes around the floor of the aditus, exposing the facial nerve and accounting for the facial paralysis.

In children, this canal is more superficial than in adults, so that facial paralysis occurs more frequently in them.

The inability to close the eyelids and the greater completeness of the paralysis characterizes that due to peripheral involvement of the nerve, and distinguishes it from central facial paralysis.

Scarlet Fever.—Abscess Opening on External Cortex and on inner side of tip of Mastoid.

Harry W., aged 9, referred by Dr. Machell. Four weeks after onset of scarlet fever left ear began to discharge—pain—mastoid edema extending down into neck. Parents refused radical operation, but permitted incisions over the mastoid and below the angle of the jaw where there seemed to be fluctuation. No relief was given by this procedure, but after ten days of fighting with the parents, they at length consented to operation. The

mastoid was completely riddled, and the entire cortex and tip of mastoid had to be removed. An opening was found in the inner surface of the tip of the mastoid, through which pus had found its way down among the deep muscles of the neck, and had eroded and blackened the bone on this inner side. To the posterior side of the mastoid, granulation tissue had reached the sigmoid sinus, but its walls were not involved. The antrum was opened and scraped free from granulations. The abscess cavities in the bone and in the deep tissues of the neck were dressed in the usual way, and went on to an uneventful recovery.

How quickly and how completely scarlet fever may destroy the mastoid is shown by this case, in which practically the whole process was ablated. The pus had found its way out through the mastoid in two places—on the external cortex, and on the inner side of the tip; yet the first incisions made, while giving exit to the pus, in no way relieved the patient, for the spontaneous openings in the bone were so situated that pus still accumulated in the tip of the mastoid. Nor had these spontaneous openings in the bone in any way tended to safeguard the sinus, for it was found covered with granulation tissue, and, at any moment, this patient might have developed sinus thrombosis, with all its septic possibilities, meningitis or abscess of the brain.

The general condition and the temperature—98.4 and 99 in four-hourly chart—in no way indicated the presence of such a mass of pus and so great destruction of bone.

One should never be satisfied with a mere exit for the pus. Too many vital structures are too close to the abscess cavity to permit one to think of anything but the most radical surgical procedure, with the condition of things exposed plainly to view.

This case shows also how the sole manifestation of a mastoid abscess may be pus low down in the neck.

13 Bloor Street West.

A CASE OF JACKSONIAN EPILEPSY IN WHICH THE PAROXYSMS WERE CONTROLLED BY CHLORETONE.

BY W. T. PARRY, M.D., TORONTO, ONT.

Miss I. M., fifteen years of age, has been afflicted with epilepsy for five years; she has frequently had as many as twelve or thirteen attacks within twenty-four hours. A peculiar feature of the case is the invariable occurrence of a spasm on awakening, whether by day or night.

At first the convulsive movements were limited to the muscles

of one side of the face, but the affected area became gradually more extended until at times the entire body was involved. However, an ordinary attack is chiefly evident in the muscles of the face, neck, shoulder and arm, without any apparent loss of consciousness.

In the treatment of this case the drugs usually indicated were persistently tried with no beneficial results. Finally Chloretone was administered, and under its influence there was a cessation of the convulsions for ten days. The drug was then discontinued for the purpose of determining if the improvement could be ascribed to its action; whereupon two spasms occurred the second night thereafter. The patient was now placed upon Chloretone in full doses.

During a period of thirty days she had but two convulsions, and these occurred during a temporary withdrawal of the Chloretone. The results that I obtained with Chloretone in this case have been very encouraging, as by no other remedial agent was the number of seizures reduced to less than five in twenty-four hours.

Fish as Brain Food.—The popular notion that fish is a brain food, rich in phosphorus, is a myth—a pleasant conception with no physiological basis to rest upon. There is less phosphorus in fish than in beef or wheat, and that food which is best for the body is best for the brain. The origin of the conception is attributed to the German scientist, Prof. Moleschott, who forty years ago wrote this epigrammatic expression: "Without phosphorus, no thought." The great Agassiz, in an address in favor of a fish commission, with other considerations used the same idea, and urged that because of the intellectual activity of our people fish culture was demanded. When asked what gave him this idea, he replied: "Dumas, the French chemist, once suggested to me that fish contained considerable phosphorus, and might on that account be especially good for food; and you know the old saying 'without phosphorus, no thought'—I simply put the two together." Afterwards Mark Twain, by his famous joke in the *Galaxy,* advised a method of its practical application that travelled around the world and burst the empty bubble: "Young author—Yes, Agassiz does recommend authors to eat fish, because the phosphorus in it makes brains. So far you are correct. But I cannot help you to a decision about the amount you need to eat, at least, with certainty. If the specimen composition you send us is about your fair, usual average, I should judge that perhaps a couple of whales would be all you would want for the present. Not the largest kind, but simply good, middling-sized whales."—James P. Lynde, in a paper read before the Mass. Agricultural Society.—*The Dietetic and Hygienic Gazette.*

Clinical Medicine.

...IN CHARGE OF...
ALEX. McPHEDRAN, M.D.

ON THE TREATMENT OF PNEUMONIA.

BY SIR SAMUEL WILKS, BART., M.D.,
Late President of the College of Physicians, etc.

Common as pneumonia is, it is very remarkable how often it is overlooked. In the course of a long experience I should say that its non-recognition is of very frequent occurrence. Considering the very marked symptoms and physical signs which it presents, the ease with which the student can learn to get it up (so that I had long ceased to ask for a description of pneumonia at the examination), it is difficult to say why in practice it so often escapes notice. One reason must be that some students have left their hospital without any practical knowledge, and therefore they necessarily fail to recognize even so marked a disease as pneumonia. They have learned a description of this disease as found in books or at lectures; but this is given in the inverse method to that required at the bedside, where they must first appreciate symptoms and allow these to lead them to the true nature of the complaint. Or it may be that the disease is overlooked from carelessness and therefore from want of examination. Those least liable to mistakes are the men who make it a rule to examine thoroughly all their patients. When the disease has been overlooked, and I have suspected it, my first remark has been, "Why this hurried breathing or imperfect movement of the chest?" and have added, "Laying bare the chest and looking at the action of respiration should be one of the first observations made, if any pulmonary affection be suspected." In the absence of its recognition I have seen ordinary pneumonia called fever, inflammation of the brain, delirium tremens, and many other complaints. It is also often overlooked as a complication of heart disease and other chronic disorders. I have also reason to believe that some patients have passed through the whole course of pneumonia and have recovered without the medical man having had any suspicion of it. This is rather a serious experience, seeing that there is no class of diseases more important for the student to recognize than those of the chest, in con-

sequence of his frequent power of curing them by topical means. The diagnosis of a pleuritic effusion may save the patient from a speedy death, and the recognition of a local empyema may be the means of restoring him to health. I have in my mind three or four cases of this kind which were absolutely cured by a surgical operation, when the subjects of it had been previously condemned to die of consumption.

My own first knowledge of treating disease was from Addison, who was the leading light and teacher for many years at Guy's. The routine method in all inflammatory diseases—in fact, in all affections whose names ended in "itis"—was the administration of a saline mixture with an antiphlogistic pill composed of calomel, antimony, and opium; the antimony was sometimes omitted and the doses of opium and mercury modified according to circumstances. Whatever doubts I may entertain as to the value of antimony in inflammatory affections generally, I have none with regard to opium. I learned to give it from my master, and continued the practice ever since. I have the firmest belief in its powers of arresting or controlling inflammatory action. I cannot doubt this when I witness a dose of laudanum at once stop a sore throat, and see a rapidly spreading ulcer on the leg quickly heal as soon as the patient takes opium. Just as this drug lowers or retards the natural functions and secretions of the body with other tissue changes, so it tends to arrest morbid processes or those unnaturally set up in various parts of the body. The most remarkable fact connected with this drug is the circumstance of its being so often put aside for very poor substitutes. When meeting medical men in consultation in cases of pneumonia, I very rarely find it given, and, on asking why not, the usual answer has been that there was no indication for its use, there being no pain and no insomnia. It was quite the exception to find any younger man know of opium as a real remedy, or of its being antiphlogistic according to the old phraseology. In the memoirs of the older Louis Napoleon it is mentioned, when at the end of the eighteenth century influenza was raging in Paris, that he suffered severely from the epidemic. Opium was given him several times a day by Corvisart; the complaint was cut short, and in a few days the Prince was well again. I might add that Sir William Gull ordered opium in pneumonia up to his last days. Just as I have seen opium beneficial, so I believe many of its substitutes are very depressing. Scarcely one of these products made in the chemical laboratory, and which act so powerfully on the nervous system, but have a depressant effect on the heart's action. As a matter of safety when long continued none of them can be compared with opium, which may be taken with impunity for years without

any serious consequences. This could not be said of other substances.

What, then, it may be asked, is the best treatment which I have witnessed for the cure of pneumonia? I should naturally say, that which agrees best with my own views. When I see a patient with pneumonia taking a dose of saline and five grains of Dover's powder every four hours I am satisfied, or if he have bronchial complication some carbonate of ammonia instead of the simple saline. A very favorite method of treatment is to keep the patient in a jacket covered with wool or warm fomentation; of this I have also approved, as it acts as a warm bath, producing perspiration, and in this way is very useful. I never but once applied cold to the chest, and in that actual harm resulted. Blisters, I believe, are harmful. I have seen two or three patients bled, and they all recovered. As regards the mass of practice which I have witnessed, there has been little uniformity about it. Every man has been a free-lance, and treated the case according to his own views, these being regarded by him as the most rational or scientific. I remember seeing two cases on one afternoon in different parts of the town which were as much alike as the circumstances and the complaints could make them; the one was on saline medicine and low diet, the other was taking carbonate of ammonia, brandy, and plenty of nourishment. The *rationale* of the latter treatment was due to the lowness of the patient. For this expression I have the greatest contempt, as it reminds me of a doctor in large practice who, during the Toddian heresy, gave brandy to all his patients because they were all weak. In a case of pneumonia following whooping-cough in a young girl I found the doctor, an intelligent young man, giving strychnia, as he did not wish, he informed me, to treat the broncho-pneumonia, but strike at the root of the disease. For this he gave the remedy, as it was now understood that whooping-cough was a nervous affection. I remember another gentleman so impressed with his scientific method of treating pneumonia that he published the case for the edification of his medical brethren. He described how he began with his antipyrin to mitigate the fever, then digitalis to lower the pulse; this was followed by an expectorant, and afterwards bromide to allay irritation, ending with nux vomica as a tonic for the lung. I am unable to lay my hand on the journal for reference, but I believe two or three other medicines were administered at their proper stages. This gentleman was so intensely satisfied with his method that I asked him if he were a homeopathist, and he assured me that he knew nothing of their system or their doctrines. I quite, however, believe there are born homeopathists who have evolved the method out of their own consciousness. It seems much more difficult for most people

to follow an empirical method and give a medicine solely on account of its known value than to administer a drug with a reason attached to it even if it be of doubtful efficacy. The public also mostly require the latter method before accepting the remedy. The variety of treatment which I have witnessed may, of course, have been often adopted on truly rational grounds, dependent on the nature of the case, whether, for example, the pneumonia was simple or a manifestation of influenza, where the heart's action has much to do with the result. Variable as I have seen the treatment, it may be said that it is nowadays more or less of the sustaining or supporting character compared with the depleting one of former years. The remedies were then of a kind to expel, extract, or knock down the disease, and therefore bleeding, cupping, and leeching were in vogue, together with purges and emetics accompanied by other powerful drugs; now the prevailing effort is to keep the patient up, and remedies supposed to have that effect are all in favor. The public participates in this view, and therefore the most potent dose of medicine which the chemist can offer is when quinine, iron, strychnia, and cod liver oil can be rolled into one. The effect of this change of treatment suggested one of the most extraordinary notions that ever entered the mind of the physician, and that is that the constitution of human beings must have altered to account for it, or, in other words, that man who had inhabited this globe for ages had in the middle of the nineteenth century undergone a complete change, and all this within the period of thirty or forty years, or during the lifetime of any ordinary practising physician. The only moral I can draw from this extraordinary belief, possessing not the slightest foundation in fact, is the simplicity of character and strong faith that men like Latham, Watson and Stokes must have had in their therapeutic art; so that they verily believed that Nature had changed to account for their different experience. Dr. Latham at the latter part of his life uttered his regrets that medical treatment had been retrograding for the previous twenty years, and that its place was giving way to pathology. I need scarcely say that I have not the slightest sympathy with such an opinion, believing that pathology and therapeutics must go hand in hand. When I witness the cures of many forms of epilepsy and paralysis, and the vast improvement in the cure of consumption, I cannot but remember how the one was due to the discovery of syphilitic gummata in *post-mortem* room, and the other to the discovery of the bacillus of tubercle in the physiological and pathological laboratory.—*The Practitioner.* A. M'P.

DUSTING POWDERS IN DISEASES OF THE SKIN.

BY DAVID WALSH, M.D.

Medicinal.

Dusting powders are chiefly useful in all periods of life in the treatment (*a*) of inflamed folds of skin, or intertrigo, in groin, armpit, and so on; (*b*) of excoriated and weeping surfaces; (*c*) of open ulcers.

(*a*) These eczematous inflammations of opposed folds or areas of skin are often due to seborrhea, or to parasitic fungi. They are common in the groin, armpits, bends of arms or legs, perineum, about the scrotum and buttocks, between the mammæ, and creases of the skin of neck and belly in stout persons.

The writer has found the best powders for this condition are made of starch, with oxide of zinc, or calamine, and an antiseptic in the shape of boracic acid (℥j or ℥ij to the ounce), salicylic acid (grs x. to the ounce) or Europhen (℥ss or ℥j to the ounce). The last-mentioned is an odorless substitute for iodoform. The addition of a little calomel is often useful.

(*b*) Excoriated surfaces, result from injury, or from an irritant which may attack the skin from without, or according to the writer's theory of excretory irritation, either from within (*a*). A true eczematous condition, that is, a catarrhal weeping inflammation of the skin without obvious cause, is probably an extremely rare condition. In any case the object of the powder is to protect, to absorb discharge, and act as an astringent, to provide an antiseptic and aseptic application, and indirectly to form an artificial scab, and thus immitate the natural processes of healing.

Starch is one of the best drying applications to a moist inflammatory surface. Another excellent application is the compound powder of chalk. Slight astringency is obtained by adding zinc oxide or carbonate (calamine) and antiseptic action by boracic acid, salicylic acid or Europhen. Calomel is a good powder for unbroken skin, but is apt to do damage in a moist or discharging skin, possibly owing to the formation of a perchloride. Its use is strongly indicated, however, in syphilitic rashes about the buttocks of children. Kaolin (a silicate of alumina) is apt to irritate some skins, but can be used with a tar preparation. Iodoform, besides its unpleasant smell, has the disadvantage of setting up an acute dermatitis in some persons who have a predisposition against the drug, and other vehicles of active agents are rice, arrowroot, orris root, lycopodium, and talc.

For a simple excoriated surface:

Calaminæ	℥ij.
Europhen	℥j.
Amyli, ad	℥j.

M. ft. pulv.

(*c*) Open ulcers, whether specific or non-specific, are often greatly benefited with dusting powders. Certain precautions are needed. Boracic and salicylic acids often cause great pain. Calomel is rarely safe to apply to any but the syphilitic sore, whether hard or soft. Iodoform is excellent for both ulcers, whether specific or non-specific. Europhen is somewhat less active as a substitute, but has not the offensive smell of iodoform. A plan used by the writer in treating non-specific ulcers is to incorporate a bland powder (*e.g.*, starch and boracic acid) with a pad of absorbent boracic wool, applied as a dry dressing. The usual way of applying these external applications is to dust the material on with a swan's down pad or pledget of cotton wool; or it may be peppered over the surface from a small dredger. One of the most satisfactory ways of procuring prolonged contact with the skin is by Unna's plan, by which the powder is sewn up in long, flat bags, and bandaged to the skin.—*Medical Press and Circular.*

A. M'P.

INTESTINAL ANTISEPTICS.*

BY BURNEY YEO, M.D., F.R.C.P.LOND.,

Professor of Medicine at King's College, London; Senior Physician to King's College Hospital.

Intestinal antiseptics and evacuants have for a long time been in use without the *rationale* for their use being known. The old blue or calomel pill, together with the black draught which dissipated the spleen and the vapors for our forefathers are instances to the point. I intend to consider the subject under four headings: (1) What is the scope of antiseptics? (2) What is the scientific basis for their use? (3) Under what conditions are they applicable? and (4) what are the means of applying intestinal antiseptics? With regard to (1), the medical use of antiseptics is different to the surgical use. The surgeon nowadays aims rather at asepsis than at antisepsis. But in medicine, as concerned with the intestinal contents, asepsis is impossible. We must, if possible, prevent, or at any rate antagonise, auto-intoxication—*i.e.*, intoxication of the organism with the products of digestion. With regard to (2), it must be remembered that certain

* Abstract of paper read before British Medical Association, Portsmouth, August, 1899.

bacilli are only harmful in the presence of putrefaction or other abnormal condition. The bacillus coli, for instance, is a normal inhabitant of the intestine, and under ordinary circumstances is harmless. If, however, the bowel becomes abnormal in any way owing to catarrh, long-continued constipation, or sometimes injury, the bacillus coli seems to take on a virulent action. When associated with the bacillus typhosus it has the power of intensifying the virulence of the latter. The experiments of Dieulafoy with the bacillus coli when taken from an appendix, the cavity of which had got shut off from the rest of the bowel, and the same organism when taken from the normal mucous membrane of the bowel, show that the former is virulent, the latter not so. As, then, the virulence of intestinal bacteria depends upon their environment, so by modifying that invironment it is reasonable to suppose that we can modify their virulence. With regard to (3), intestinal antiseptics are indicated in gastric catarrh and fermentative dyspepsia. Grange recommends in cases of summer diarrhea the use of plain boiled and cooled water. He claims that the use of this dilutes the toxins. There are many other conditions to which fermentative dyspepsia and auto-intoxication give rise. Such are dyspepsia, chest pain simulating angina pectoris, vertigo, aphasia and anemia. Even pernicious anemia had been considered by some observers to depend upon some toxin which exerted a hemolytic action. There are three other diseases in which the use of intestinal antiseptics is rational—namely, cholera, dysentery, and typhoid fever. Of the first two I have had no practical experience, but with regard to typhoid fever I have for some years advocated and practised the use of intestinal antiseptics. Typhoid fever often exhibits symptoms of being due to a mixed infection, and this may explain the extraordinary variations in the severity of cases. I can recall instances in which the use of a chlorine and quinine mixture given every two or three hours has been attended with most marked results for the better in cases of typhoid fever. So, also, in some cases of indefinite febrile affections accompanied by rise of temperature, furred tongue, and foul-smelling stools, the use of thymol by the mouth, together with irrigation of the large bowel by eucalyptol, olive oil, and soap-and-water administered in the knee-chest position, had rendered the patients well. I am not able to say to what exact disease this condition was due, but I think that whether the original infection had been by typhoid fever or influenza, the condition which I was called upon to treat was due to the action of the bacillus coli in an abnormal environment. With regard to (4), the various intestinal antiseptics are: water boiled and cooled, calomel and salines, both of great value in the *early* stages of typhoid fever. Salicylate of bismuth and carbolic acid are both

useful. As to the latter, I remember a case published recently in the *Lancet* by Dr. G. Williams, where a patient suffering from typhoid fever took by mistake one ounce of carbolic acid. He had, of course, to be treated for the toxic effects, but recovered from them with his typhoid fever much lessened. Salol is very uncertain. Eucalyptol and thymol are both good, and irrigation of the large bowel in such cases as I have mentioned was a necessity. Patients, especially in typhoid fever, must not be overfed. I would conclude with a warning against the production of the modern manufacturing chemist who sets up to teach the clinical physician.—*Medical Press and Circular.* A. M'P.

SOFT SOAP TREATMENT OF TUBERCULOUS AFFECTIONS.

For the last thirteen years Prof. Albert Hoffa, of Wurtzburg, has been using soft soap inunction in all forms of local tuberculous affection, and in *Munch. Med. Woch.,* September, 1899, he reports his experience. The soft soap inunction, it should be said, is always used as an adjunct to the ordinary general treatment. The case treated consisted of spondylitis tuberculosis of the hip, knees, foot and elbow, as well as of the glands and skin, and he claims that the effect has been good. It is said to be wonderful to observe the difference in the results obtained between cases treated with and those without the soap inunction. Under the influence of the soft soap treatment, the general condition of the patient and the appetite rapidly improve, the tuberculous joint swellings rapidly become smaller, fistulæ close up quickly, and glandular swellings subside. Wonderful results are seen, especially in the multiple tuberculous diseases of bones and joints, and children already much reduced. As regards the selection of the preparation of soap it is to be remarked, according to the author, the only kind suitable is the sapo kalinvenali kept in the shops, which is prepared from linseed oil and crude caustic potash without spirits of wine, and which always contains a small excess of caustic potash and its carbonate. The author rubs in 25 to 40 grms. of this soap two or three times a week, and lets it lie on half an hour, at the end of which time it is washed off with a sponge and warm water.

As regards the mode of action of the soap the author confirms the ruling view, among others, that of Kollmann, that under the influence of the soap treatment the injurious lactic acid circulating in the system becomes neutralised, and that the alkalinity of the blood is increased. The increase in the alkalescence caused increased tissue change, and this acts favorably on the general condition and especially on the affected parts.—*Medical Press and Circular.* A. M'P.

Proceedings of Societies.

INTERNATIONAL CONGRESS OF MEDICAL DEONTOLOGY OR MEDICAL ETHICS.

By virtue of the Ministerial Decree of June 11th, 1898, an International Congress, dealing exclusively with economical and ethical questions, is convoked. It will hold its first sitting at the Palace of Congresses and of Social Economy, situated within the Exhibition Grounds, Paris, on June 23rd, 1900. After the inaugural ceremony the Congress will meet at the Faculty of Medicine, 12, Rue de l'Ecole de Medecine, Boulevard St. Germain, and continue its sittings till July 28th.

By virtue of the Ministerial Decree of December 19th, 1898, a Commission of Organization for the Congress was appointed. Dr. L. Lereboullet, Member of the Academy of Medicine and General Secretary of the General Association of the Medical Practitioners of France, is the President. The Vice-Presidents are Dr. Robert Jamin, President of the Medical Society of the Ninth District of Paris and Vice-President of the Syndicate (or Union) of the Paris and Suburban Medical Practitioners; and Dr. Le Baron, founder of the Syndicate of the Medical Practitioners of the Department of the Seine. Dr. Jules Glover, 37, Rue du Faubourg Poissonniere, Paris, is the General Secretary, and the Commission comprises such well-known and eminent medical men as Dr. Brouardel, Dean of the Paris Faculty of Medicine; Dr. Bergeron, Dr. Cornil, Dr. Napias, Dr. Albert de Blond, etc., etc.

FIRST SECTION.

The Relations of Medical Men and Collectivities.

Dr. Cuylits, formerly Secretary of the Brussels Medical Union, will report on the Relations between Medical Men and Benefit Societies. It is also proposed that the following questions should be discussed in this Section :

1. The Laws governing the Exercise of Medicine.
2. The Relations of Medical Men and the Organizations for the Relief of the Poor : workhouse infirmaries, hospitals, dispensaries, etc.
3. The Economical Position of Medical Officers of Health.
4. The Relations of Medical Men and the Judiciary Authorities, expert evidence, professional secrecy, etc.
5. The Relations of Medical Men with other collectivities than State or Municipal collectivities, such as Railway, Insurance, and Industrial or Mining Companies, Provident or Benefit Societies, Private Charities, etc.

SECOND SECTION.

The Relations of Medical Men and Individuals.

Dr. Descouts, Professor of Forensic Medicine, will report on the Illegal Exercise of Medicine. This Section is invited to discuss the question of medical fees; the Privileges of the Medical Practitioner; and the relations of the Practitioner with nurses, midwives, dispensing chemists, manufacturers of surgical apparatus, etc., and with quacks.

THIRD SECTION.

The Relations of Medical Men with Fellow Medical Men (Medical Deontology).

Reports will be read by Dr. Grasset, Dean of the Medical Faculty of Montpellier, on the Fundamental Principles of Medical Deontology; by Dr. Pollak, of Vienna, on the Organization of Chambers of Medicine and the Results Attained in the Countries where these Exist; by Professor Jendrassik, on the Organization of Medical Leagues in Hungary; and by Mr. Adolphe Smith on the Organization of Medical Unions in Great Britain.

Questions submitted for discussion: Consultations, Cliniques and Medical Institutions, *Locum Tenens*, Sale of Medical Practices, Orders or Guilds, Chambers, Syndicates or Unions of Medical Men, and the Relations between Medical Men of different Nationalities.

FOURTH SECTION.

Professional Organization of Insurance, Mutual Assistance, and Defence.

Dr. Lande, of Bordeaux, will report on Insurances for the Help and Relief of Medical Men. Dr. Porson, of Nantes, will report on Organizations for Professional Defence. The Section will be invited to discuss the questions of Insurance for Medical Men against Sickness or Infirmities, of the creation of a Pension Fund, a Fund for the Succor of the Widows and Orphans of Medical Men, etc.

Dr. J. G. Adami, of Montreal, will be pleased to furnish all further information upon this subject.

THE 1900 MEETING CANADIAN MEDICAL ASSOCIATION.

The Canadian Medical Association this year will convene in Ottawa on September 12th, 13th and 14th. There is everything in favor of the century gathering being the biggest on record. A most enthusiastic meeting of the profession in and around Ottawa was held recently, and a large sum of money subscribed for the entertainment of visiting members, making it a certainty that those in attendance will have, if possible, even a better time than they have ever had before in the Capital City. The President, Dr. R. W. Powell, has recently heard from Mr. Edmund Owen, of London, England, the gratifying information that he will deliver the address in Surgery. We urge upon all the advisability of turning out next September *to a man*, and making the 1900 meeting of The Canadian Medical Association the best yet.

THE ONTARIO MEDICAL ASSOCIATION.

The date of this year's meeting of the Ontario Medical Association has been changed to June 6th and 7th. The sessions will be conducted at the Educational Department, Gould Street, Toronto. Dr. L. Barker, of Johns Hopkins University, will read the paper in Medicine, and Dr. Luke Teskey will open the discussion in Surgery. The subject of Inter-Provincial Registration will be discussed at one of the general sessions, the subject being introduced by Dr. J. A. Williams, of Ingersoll. Intending speakers should communicate at once with Dr. Harold Parsons, Toronto. There will be also a large exhibit by the various manufacturers.

Dr. H. J. Hough has settled in Midland, Ont.

Congratulations to Dr. Harper, of Alliston, on his recent marriage.

Dr. T. J. Norman, of King, has gone to England to take a post-graduate course.

Dr. Gibb Wishart has been appointed Laryngologist to Gravenhurst Sanitarium.

The American Medical Association meeting will be held at Atlantic City, N.J., from June 5th to 8th.

We acknowledge the loan of the cuts illustrating Dr. Manley's paper in this issue of the Journal from *The Railway Surgeon*, Chicago, Ill.

Dr. Vaux, of Brockville, has been appointed Chairman of the Ontario Provincial Board of Health, *vice* Dr. Macdonald, of Hamilton.

Dr. Ezra Stafford has left Toronto for a vacation, and is at present in Omaha, Neb. He has been succeeded at the Asylum by Dr. R. W. Bell.

Our old friend, Dr. H. Morell, of Slayton, Minn., where he has been practising for some years, has secured the appointment of Acting Assistant Surgeon to the U. S. Army at Manila, P.I.

The editorial management of *The Canada Lancet* has been assumed by Dr. H. B. Anderson, of Toronto. The associate editors are Drs. W. B. Geikie, J. L. Davison, D. G. Gordon, J. T. Fotheringham, F. Fenton, F. LeM. Grasett, G. A. Bingham, Allen Baines, D. C. Meyers, H. C. Parsons, G. S. Ryerson, N. A. Powell, D. J. G. Wishart, and C. A. Temple.

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF DECEMBER, 1899 AND JANUARY, 1900.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

DECEMBER, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,276,532	756	1,843	10	20	0.09	42	0.2	3	0.01	6	0.02	28	0.1	157	0.8
99.7%	97%														

JANUARY, 1900.

2,057,455	638	1,771	10	13	0.07	51	0.3	2	0.01	4	0.02	16	0.09	183	1.6
90%	82%														

Population of Province 2,283,182

Registration Divisions of Province 777

The Canadian Journal of Medicine and Surgery

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Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

Oral Surgery—E. H. ADAMS, M.D., D.D.S., Toronto.

Surgical Pathology—T. H. MANLEY, M.D., New York, Visiting Surgeon to Harlem Hospital, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

Gynecology and Obstetrics—GEO. T. MCKEOUGH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Newmarket, Ont.

Medical Jurisprudence and Toxicology—N. A. POWELL, M.D., Toronto, and W. A. YOUNG, M.D., L.R.C.P. Lond., Toronto.

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Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifteenth of the preceding month.

VOL. VII. TORONTO, APRIL, 1900. NO. 4.

Editorials.

TREATMENT OF THE INSANE BY CONFINEMENT TO BED.

THE systematic treatment of insane patients by confinement to bed, called in Germany Bet-behandlung, is much used in Germany, England and Russia, more particularly in cases of recent mental alienation and the acute psychoses. A well-written presentation of the subject appeared recently in *La Presse Medicale* from the pen of Dr. A. Vigouroux, Physician of the Colonie

Familiale de Dru-sur-Auroz, a *resume* of whose views we herewith present to our readers. Up to the present time, only certain classes of insane patients have been confined to bed in the majority of asylums; for instance, in addition to those suffering from some intercurrent affection, paretics in the third stage, and wasteful patients, are so treated. Some alienists, however, favored confinement to bed in the treatment of melancholy, though not in a systematic manner; it was rather directed against the physical signs of the disease—edema and cyanosis of the extremities, different disorders of the circulation, loss of flesh, etc. The systematic application of Bet-behandlung necessitates the confinement to bed of all lunatics after their entry into an asylum, and the keeqing in bed of all patients affected with acute psychoses.

As an instance of the mode of classifying patients in the Leubus Asylum, Germany, in which there are 205 patients, Dr. Serieux gives the following statistics:

Patients confined to bed permanently.....	57.6	per cent.
" " " intermittently.....	10	"
" engaged in work	31	"
" isolated	1.4	"

The advantages of Bet-behandlung are as follows: Transformation of the general appearance of an asylum, easier and more complete clinical examination of the patients, more continuous and attentive observation of the patient, more rapid repair of losses sustained by the organism of the patient, better rest and sleep, diminution of the intensity of the symptoms of the acute stage of diseases, and perhaps a more rapid evolution of these diseases; besides less danger to the attendants and much less destruction of furniture and bedding.

Among the disadvantages accruing from the employment of this therapeutic method may be mentioned a tendency to syncope experienced by patients who are confined to bed for a long time. This tendency may, however, be prevented by causing the patients to rise from bed for a short time each day. Dyspeptic troubles, loss of appetite and constipation may be treated by a special kind of diet, by laxatives, etc. Massage and electro-therapy may render great services in ameliorating the unfavorable general condition and the stiffness of the joints observed in amyotrophic cases.

The habit of masturbation and the destructive habit will call for careful, though easily applied, observation. Good ventilation of the wards, the providing of baths for patients, and taking them for short walks in the open air will tend to prevent anemia. A longer experience of this method will, no doubt, enable superintendents to judge of its therapeutic merits. The mere transformation of part of an asylum into a hospital, by suppressing cells and quarters for violent patients, would be a great advance and a long step towards the realization of a hospital for lunatics such as it should be at the present day. Such an asylum would consist of three distinct parts: a central portion, or hospital, where all acute forms of insanity and the incident diseases would be treated; an annex where convalescents could test their capacity for further liberty, by working in a ward with open doors; an observation department, where dangerous lunatics would be confined.

Alcoholics, epileptics, idiots, and criminal lunatics should be placed in special asylums; senile dements and harmless cases of chronic insanity, in industrial colonies in the country or in family colonies. J. J. C.

SOME OBSERVATIONS ON THE VITAL STATISTICS OF ONTARIO FOR 1898.

For the year 1898, the total births recorded in Ontario were 46,599, as compared with 47,323 in 1897, showing a decrease of 724 for the year. The estimated population is 2,279,929. The Registrar-General contends that it is useless to draw any conclusions as to the causes of a decreasing birth rate, until the Division Registrars give more complete returns. An Act was passed in 1896, which provides that "Division Registrars (municipal clerks) shall use all available means to obtain the necessary information hereafter required in this Act, and shall be paid 20c. for each return by the municipality," which further states "that the parent or guardian of every child born in this Province, or, if there is no such person, then the nurse or midwife present at the birth shall, within thirty days from the date of the birth, give notice to the Division Registrar of such birth;" while the Act further provides: "It shall be the duty of every qualified medical practitioner attending at the birth of any child born within the

Province to give notice thereof forthwith to the Division Registrar of the division in which the child was born."

In spite of all these provisions, births are not well reported. City Division Registrars are especially blamed for neglecting to make complete returns of births, and the reason given is that, when a city clerk is paid a good salary, covering all the duties laid upon him, he will not go out of his office to collect birth statistics, so as to make his returns complete. To this accusation the city clerk may respond, that he is always prepared to receive such reports of births as reach his office from the several contributing persons mentioned in the Act, and that they are responsible for the incompleteness of his reports. One way of surmounting this difficulty would be to appoint, under the Act, in each large city in Ontario, an official whose business it should be to collect accurate reports of births, a fee of 20c. being allowed him for each return. To give him sufficient employment and salary, he should also report deaths and marriages. Such an official would not remain passive in his office, waiting to receive reports; but would, in his own interest, exert himself to collect the true birth statistics of his municipality.

The total number of deaths recorded in Ontario in 1898 was 26,370, as compared with 27,633 in 1897, a decrease of 1,263. There is no complaint made about the registration of deaths, owing to the stringent laws against burial without a permit. The total marriages recorded in 1898 were 15,375, as compared with 15,293 in 1897. The returns of marriages are also complete, since the passage of the amendment to the Marriage Act in 1897, requiring license issuers to forward to the Registrar-General copies of all licenses issued by them.

It is a source of gratification that deaths from diphtheria and croup in 1898 were less than during the preceding year, the figures being 634 in 1898, as compared with 976 in 1897. Much of this satisfactory showing is due to hygiene, including under this head the salutary fear of this disease entertained by the people, coupled with the activity of local boards of health in suppressing it. The use of diphtheria antitoxin has, however, enabled practitioners to accomplish a saving of life from this disease which, prior to 1895, had not been witnessed in this Province, even when the best efforts of sanitary authorities had been employed.

Tuberculosis is increasing, the total mortality for 1898 being 3,291, as compared with 3,154 in 1897, or a death rate from this disease of 1.4 per 1,000 living persons. The Registrar-General significantly remarks: "As yet no systematic steps have been taken by local boards in the cities of Ontario to maintain a supervision of houses where consumptives are resident, nor to disinfect the premises after death." And it might have been added that rural health boards are equally remiss in these respects. He also attributes a considerable influence in propagating this disease to "old houses where previous cases have been." Yet he does not suggest that consumption should be made a notifiable disease, which, however, would naturally follow from his remark; for the principal object in view, in asking for notification of consumption, is to obtain accurate information about the phthisical infective centres in a municipality. These houses can thereafter be placed under the control of the sanitary authority, particularly after the departure of a consumptive tenant and his death, so that the germs of his disease, which are contained in his expectoration, may not be left after him to mingle with the house dust, and thus renew the process of tuberculization in some other susceptible person.

J. J. C.

THE CLIMATE AND DISEASES OF SOUTHERN AFRICA.

From communications made to the British medical press and from a paper read at a recent meeting of the Berlin Medical Society, and condensed in *La Presse Medicale,* interesting information has been received as to the climate and the diseases of Southern Africa. Generally speaking the climate is healthy, but is not uniform. The southern part of Cape Colony resembles the climate of Central Europe. Basutoland has an Alpine climate; in the Orange Free State and the Transvaal, in the neighborhood of Natal, the climate is like that of Italy. These favorable climatic conditions explain the reason why, in spite of continuous wars with the blacks, the white population has steadily and constantly increased.

The diseases usually met with in hot countries are, however, prevalent. Diarrhea is common, but does not generally affect civilians severely. Soldiers in camp, who are more exposed to the

weather, often suffer very much from it. A correspondent of the *British Medical Journal*, writing from Modder River, says: "The cause of the diarrhea is an acute enteritis, following the ingestion of particles of sand. Seldom a day passes without the camp being attacked by a 'devil.' This is the popular name for a dustspout of sandstorm. These storms may last from a quarter of an hour to a whole day, and make life a perfect misery. The quantity of silica one is compelled to breathe and to swallow is enormous, and it is the irritation of the bowel membranes by these particles of silica that causes a large percentage of our cases of diarrhea."

Typhoid fever is pretty common in Southern Africa, and certainly depends on the defective distribution of potable water. This disease sometimes assumes a severe form; for instance, at Douglas, which had a population of 800 souls, it caused a mortality of 150 out of 300 cases. Cholera, plague, and yellow fever are imported diseases, and can be restricted by quarantine and hygienic measures.

A severe form of scurvy prevails among the blacks. As a result of the cattle plague, which raged in Bechuanaland, the blacks were deprived of the use of milk, and owing to a failure of the maize crop, they had no corn, so that scurvy became epidemic among them. For the same reasons, the whites are frequently attacked by this disease. Tuberculosis is almost unknown among the blacks and the Boers. On the other hand, leprosy, which was introduced into the country at the beginning of this century, threatens to become very formidable. At the present time there are said to be more than 10,000 lepers in Southern Africa, an enormous number for a small population. The blacks also suffer a good deal from a severe, infectious pneumonia. Bacteriological examination has shown that these cases of pneumonia are produced by pneumococci, Pfeifer's bacilli, or streptococci.

Infantile mortality, in spite of large families—Boer families of from twelve to twenty children are not uncommon—is small, and that circumstance depends largely on the fact that infants are nursed at the breast. Epizootics are frequent and very destructive. In 1870 an epidemic of pleuro-pneumonia destroyed 2,000,000 out of a total of 3,000,000 head of cattle in Cape Colony. The "horse sickness," which affects the equine race, and the tse-tse, which affects horned cattle and horses, destroy a considerable number of these animals every year. J. J. C.

THE ANTISEPTIC ACTION OF HYDROGEN DIOXIDE.

At a recent meeting of the Parisian Surgical Society, a discussion arose as to the rationale of the antiseptic action of hydrogen dioxide. Dr. Chauvel had reported a case of diffuse phlegmon of the leg, which continued to spread in spite of several incisions, and was at last arrested in its progress by hypodermic injections of hydrogen dioxide, introduced at the periphery of the diseased tissue. Professor Terrier contended that from the standpoint of the antiseptic action of hydrogen dioxide, Dr. Chauvel's case was not of much interest, as he had neglected to make a bacteriological examination of the disease. In his opinion, the disinfectant in question should not be employed, unless a bacteriological examination reveals the presence of anerobic bacteria, in the destruction of which its action is very powerful. Dr. Albarran concurred in this opinion, and claimed that he had obtained excellent results by treating with hydrogen dioxide the sloughs containing anerobic bacteria, which form in tissues devitalized by urinary infiltration. Dr. Quenu was also of the same opinion as Professor Terrier, and stated that he used this antiseptic as a lotion in cancerous disease of the rectum, prior to its removal by a surgical operation. He thus prevented the occurrence of those post-operative phlegmons, in which the integument is soft and the contents of a dead-leaf color, the appearance of which he had previously endeavored to combat, though in vain, by the use of boracic acid and permanganate of potassium.

Dr. Lucas-Championiere considered that hydrogen dioxide was the most powerful antiseptic known; but did not think that its employment in a diseased tissue should depend on the nature of the bacteria discovered there, because its mode of action is as yet unknown. Complex phenomena result from its action, terminating in the destruction of all kinds of microbes, both anerobic and aerobic.

Professor Tuffier offered the following explanation of the *modus operandi* of this drug. Wounds of the lung will not endure the local application of any liquid, and cannot, therefore, be directly disinfected. After performing pneumotomy for gangrene of the lung, he found that the wound did well if exposed

to a current of oxygen. Similarly, broncho-cutaneous fistulæ, through which a constant current of air passes, heal easily. Hence he concluded that hydrogen dioxide owes its antiseptic power to the oxygen which it contains. J. J. C.

PROPOSAL TO RE-PROVINCIALIZE TORONTO UNIVERSITY MEDICAL FACULTY.

As we go to press for this issue, there is going on an exceptionally vigorous lobby in behalf of a certain change in legislation which our Ontario Government is being requested to enact by Trinity Medical School. We are not able at this late hour to make any comments, further than give a plain statement of fact, so far as we understand it. There has for years been what might be termed a sort of truce existing between Trinity Medical School and Toronto University Medical Faculty, though at all times there has been a decided spirit of rivalry, as is always the case between two such bodies. Now Trinity wishes to step in and, as she terms it, re-provincialize her competitor, claiming that Toronto University, being the Provincial University, has a right, and is bound, to extend to her certain rights as a teaching body of which she claims to have been deprived in 1887. In a word, what Trinity is after, and says she will get, is to effect a movement looking to the reduction of the medical department of Toronto University to a merely examining status, and the withdrawal of the State aid alleged to be given the Medical Faculty of that body. Were this done, it is argued in effect if not in words, the handicap, under which Trinity is said by some to exist, would be removed, and it would then be in a better position to resist the competition of Toronto University Medical Faculty.

Dr. McKay, M.P.P., has a bill before the Legislature intended as a move in this direction. The bill provides that the medical department of the Provincial University, which now consists of one set of medical teachers only, shall after the passing of the Act consist of the medical faculties of all medical colleges or medical schools affiliated with the University of Toronto; also, that the examining board for degrees in medicine in the Provincial University shall consist of an equal number of examiners,

selected from each teaching medical college or school in affiliation with the University. These examiners shall be recommended to the Senate by the respective teaching bodies to which they belong. Also that each affiliated medical college or school shall have one and only one member on the Senate, who shall be elected by the body he represents. W. A. Y.

EDITORIAL NOTES.

The Mayor of Toronto and Vaccination.—In an evening paper Mayor Macdonald is quoted as having said, "I don't know that we should pay for murder," when the Board of Control at a recent session took up the estimates of the local Board of Health, and an item of $250 for the purchase of vaccine was considered. The Mayor moved that this item be struck out. Fortunately the appropriation was carried. Then a slight altercation ensued over a bill of $144 for a little creature comfort (sometimes called whiskey) for the patients at the Isolation Hospital. The JOURNAL will with pleasure head a list of subscribers to a fund to buy paper enough, even at the advanced rate of pulp, to make a laurel to adorn the brow of someone sadly in need of a halo in the shape of a fool's cap. W. A. Y.

Toronto Sanitarium for Consumptives.—Recently a sort of public wave of interest in sanitaria for consumptives seems to have enveloped the community, and found its expression in the commodious group of buildings at Gravenhurst. Now local public opinion seems to be aroused, and pondering the advisability of erecting another sanitarium in the vicinity of Toronto where the poorer classes of afflicted may find an ever-open door of refuge. An extension of the "Muskoka Cottage Sanitarium" near Toronto has also been spoken of. Perhaps the best advice a canny medical journal can give is, "Pull one, pull all, and pull altogether," for in union lies capital and strength enough to make the proposed "Toronto Sanitarium" worthy of its name and adequate to its high mission of ameliorating the sufferings of the consumptive poor, of whom truly we have many always with us.

W. A. Y.

Is Dr. Osler, of Baltimore, Going to Edinburgh?—There is a report that Dr. Osler is to be offered the chair of Medicine in

Edinburgh University, to succeed Professor Grainger Stewart, deceased. Should he go, America will lose one of its brightest minds, and medical research its greatest luminary.

Dr. Roddick's Bill on Interprovincial Medical License.—*Le Bulletin Medical de Quebec,* which has been offering an energetic opposition to Dr. Roddick's bill, announces that it will be kept before the House this session for discussion only, with the understanding that it will be introduced next year. The bill, in its modified form, will be reprinted and distributed to all members of the profession.

Treatment of Abscess of the Liver.—Dr. Championiere reports to the Surgical Society of Paris a case in the practice of Dr. Muselier, in which an incision made into the patient's liver caused the evacuation of two litres of pus. Although this kind of pus is ordinarily sterile, he takes great care to prevent it from escaping into the peritoneum. To gain this end he introduces a few sutures at the seat of puncture, before incising the orifice of the wound made by the exploratory trocar. He also thinks the thermo-cautery preferable to the bistoury for incising the liver, as the resulting hemorrhage is thus reduced to a minimum.

Treatment of Fracture of the Neck of the Femur by "Nailing."—In *Nordiskt Medinskt Arkiv,* Dr. Julius Nicolaysen thus describes his method of treating fractures of the neck of the femur: After reducing the fracture, the bone is fixed in its normal position by means of a steel nail of a triangular shape, and about 4 3-4 inches in length, after which an immovable plaster bandage is applied and allowed to remain in position during ten or twelve weeks—the nail is removed after two or three weeks. The results of the operation have been quite satisfactory. The real shortening has been reduced on an average to 1 1-2 inches. The apparent shortening (dependent on adduction) disappears. This treatment was chiefly applied to non-impacted fractures; but in some cases of impacted fracture, in which the shortening was considerable, it was used with very good results. The immediate effect of "nailing" is to produce a complete cessation of pain. In the greater number of cases anesthetics were not used. Eight men and thirteen women were treated by this method.

Influence of Race on the Variations of Memory.—Mr. Colegrave, an American psychologist, proposes the following questions: "Given a white, an Indian, or a negro, a man or a woman, which has the longest memory? Do we remember more perfectly pleasant or sad events? What school happenings are graven on the memory most easily and for the longest time?" Mr. Colegrave prepared a list of fourteen questions, which were submitted to human beings of every race, every age, and of both sexes. The replies received give the following results: Human beings remember pleasant events better than sad ones. The negroes form the only exception to this rule. The descendants of Ham write their joys on sand and their misfortunes on marble. Their ideas appear to be essentially of the same color as their skin. Uncle Tom is the arch type of the pessimist. Mr. Colegrave has discovered among whites, blacks and Indians, both men and women who have preserved the recollection of events which occurred in the first year of their existence. A strange observation is, that of the 1,658 persons who have recorded their impressions, a large majority have the clearest recollection of their eighteenth year. The subjects connected with an educational course which old scholars recollect best are history, geometry, French, German, and a thrashing, in the order named.

Crime in Italy.—We notice in *Debats* the following "Statistics of Crime in Italy": Crime appears to prevail extensively in Italy. From 1890 to 1895, 624,127 men and 129,158 women were condemned to different penalties by the tribunals of King Humbert. Each sex shows its activity in particular directions, and confines itself to particular crimes. Thus infanticide and desertion of children are peculiarly feminine crimes. Of 100 infanticides, only eight having been committed by men. Defamation of character is common to both sexes, who practise it in about equal proportion. Robbery is principally done by men, 100 men having been convicted of simple theft, to twenty-four women. The number of women is still less in cases of commercial fraud. The number of women is extremely small in assassinations, quarrels and assaults of all kinds. Feminine mildness holds these crimes in horror, but prefers poison. Out of 100 cases of poisoning, seventy were committed by women. These Borgia crimes flour-

ish principally in the peninsular part of Italy. In the Abruzzi mountains, out of 100,000 women, 554 are annually condemned by the courts for the crime of poisoning; in Campagna, the Basilicate, and Calabria, about 400. But the number of culprits decreases progressively toward the north: 372 in Romagna, 99 in Tuscany, only 70 in Lombardy. The honesty of Italian women is influenced by latitude, with the exception of the women of Venice. The latter come before the courts much more frequently than their distance from the equator would induce one to suppose. But it appears that the crimes of which they are accused are principally small thefts of the products of the field and the forest, in which many of them are engaged in working.

Behavior of Diphtheria Toxin, as influenced by the Condition of the Organism.—F. Volagussa and Ranceletti (*Annali d'igiene Sperimentale*, 1899, No. 1, p. 118) state, that the principal factors in creating a predisposition to diphtheria are: food poor in quality and insufficient in quantity, muscular fatigue, overcrowding, dampness, darkness and bad ventilation, all of which are closely connected with poverty. When animals, which have been subjected to the action of any one of these conditions, receive an injection of diphtheria toxin, they show less resistance than the control animals which are well kept; they die sooner and present greater *post-mortem* lesions. The prolonged use of alcohol and coffee, the injection of filtered cultures of saprophytic or pathogenic germs (streptococcus, staphylococcus) make the guinea-pigs more sensitive to the diphtheria toxin. The Lœffler bacillus, when living in a symbiosis along with the streptococcus and the staphylococcus, makes a toxin of greater strength than a pure Lœffler toxin. The living cultures of streptococci and staphylococci, inoculated in a non-lethal dose along with the diphtheria toxin, produce a fatal septicemia. Experiments therefore go to show, that the individual and social causes, which produce intense poisoning in diphtheria, are the same as those which are active in infectious diseases generally.

The Physician's Library.

BOOK REVIEWS.

Chirurgie du Foie et des Voies Biliaires. Par J. PANTALONI (de Marseille). Avec 348 figures dans le texte. Paris: Institut de Bibliographie Scientifique, 93, Boulevard Saint-Germain. 1899.

This somewhat elaborate volume of 564 pages is devoted to the operative surgery of the liver and bile-ducts. The author recognizes that those who have preceded him in writing upon the surgery of these organs, have devoted considerable attention to the pathology of the various affections met with; this volume, however, deals exclusively with operative procedures, and an attempt is made to describe in detail the technique of each operation. The work is written in a very systematic fashion, a chapter is devoted to each operation: the operation is defined, then an historical account given of it. If there are different methods of performing an operation these "*variétés*" are classified, then the operative technique is detailed *in extenso*. Each chapter is rendered the more valuable by adding a paragraph on the indications for the operation. The volume is profusely illustrated with excellent diagrams.

The work is divided into four parts:

1. Operations upon the liver itself.

2. Operations upon the annexes of the liver (suspensory ligaments, etc.) and upon the blood vessels of the liver.

3, 4. Operations upon the bile-ducts and gall-bladder. These are grouped: (*a*) Operations on the gall-bladder. (*b*) Operations on the cystic duct. (*c*) Operations on the common bile-duct. (*d*) Operations on the hepatic duct. (*e*) Operations on the intra-hepatic bile-ducts.

The first chapter is devoted to puncture of the liver either as a method of diagnosis or to effect a cure. The author describes a number of methods of puncture with or without drainage, and adds an interesting paragraph on "indications," in which he discusses practically the question regarding the advisability of the employment of this method of treatment. By extensive reference to the literature of recorded cases he shows that the method is useful as an aid to diagnosis in fluid tumors when the operation is done with strict asepsis and with a proper instrument, the operation being distinctly contra-indicated in malignant disease, and in traumatism, the danger being here that of causing fatal hemorrhage. As a curative agent numerous cases are recorded of thus curing hepatic hydatid cysts, but numerous accidents, too, are mentioned, and the operation is abandoned for more efficient methods, as it is also in abscess of the liver. An impressive commentary on the dangers of punctures is given in the reproduction of a diagram from Doyen, showing how one might readily transfix the gall-bladder or the colon in the endeavor to reach a large cyst of the liver.

The chapter on "Laparotomie parahepatique" is one of the most important in the book, dealing with the all-important questions of the best means of approaching the seat of trouble and of treating the abdominal wound, with or without drainage, subsequently. Pantaloni throughout insists on asepsis as the great secret of successful operation. He describes three routes for liver exploration, (1) the abdominal, (2) the transpleural, (3) the lumbar. In the abdominal method he recommends the oblique incision parallel to the lower

costal margin as the incision *par excellence*. Vertical incisions are also discussed. In the transpleural method six centimetres of two or three ribs (8th, 9th and 10th) are resected. The incision is carried through the pleura to the diaphragm, and subsequently the edges of the incision through the diaphragm, and the two cut margins of the pleural layers are sutured together. The pleural cavity is thus closed off and the liver exposed in the bottom of the wound. Defontaine is the great exponent of this method and has perfected the technique of operation. In the lumbar operation the incision is similar to that made for exploring the kidney.

For drainage the author describes and figures the rigid tubes of glass or metal, perforated laterally by holes and passing through them a rope of wick. This he believes to be a most efficient drain. Laparotomy in traumatism is dealt with in a special manner.

"Tamponnement parahepatique," as the author states, forms a veritable operation, as it is so frequently called for in hemorrhage which cannot otherwise be controlled; sterilized gauze is used for the purpose, or iodoform gauze. Methods of curetting the abscess cavities and of suturing the liver substance are detailed; the chapter on the various ingenious methods of suturing the friable and vascular liver substance is of special value. The author then proceeds to describe the methods of dealing with cysts and abscesses, and in sixty pages gives a most valuable account of the different methods employed under the main headings of Hepatotomie and Hepatostomie. The various means adopted for incision and drainage are described with or without fixation of the liver to the wall of the abdomen. The chapter on partial hepatectomy contains interesting accounts of what has been accomplished in that field of surgery. The first part of the work closes with an account of the comparatively new procedure of partial and total hepatopexie. In partial fixation, *i.e.*, fixation of a "floating lobe," of the liver to the wall of the abdomen, the first operation was performed by Billroth in 1884. Total hepatopexie was first attempted in France by Marchant, of Paris, in 1891, and more than twenty cases have been reported since. The procedure may be a comparatively simple one in which the liver is scarified over a definite area and this fixed by suture to the chondrocostal margin and the abdominal wall, or this may be done with, in addition, a resection of portion of the abdominal wall (laparectomie).

In the second part of the work the author deals with operations upon the annexes of the liver, including operation upon aneurism of the hepatic artery. The operation of "Phlébotomie hépatique" is described, and Howard Kelly is credited with the first operation carried out in cases of hypertrophic cirrhosis of the liver with ascites. He drew off as much as 20 ounces of blood at a time by puncturing the hepatic veins. The operation of extirpation of lymphatic glands from the hilus of the liver in tuberculosis, etc., is also described. Resection of the falciform ligament is an operation noted as of value in certain cases of prolapse of the liver.

The third part of the work is perhaps the most interesting, dealing with the operations upon the gall-bladder and the bile-ducts, but this review is already so long that one must not extend it further. Various methods of exposing these structures and of carrying out systematic examination of them are detailed in an elaborate fashion, the author's description being made very clear by excellent diagrams. The various operations for gall-stones are here described, and the author has succeeded in presenting a most valuable account of the methods which may be adopted in all possible conditions which present themselves in this fascinating field of surgery. Some 350 pages are devoted to this section of the work.

We consider this work on the operative surgery of the liver and bile-ducts the most valuable monograph existing on the subject. It will prove of great value to the surgeon who is working in this particular field, and presents a vivid picture of the great advances made in surgical technique within the last few years. The whole of this extensive volume is, in fact, devoted to an elaborate description of modern surgical methods applied in the treatment of a region of the body which has only of recent years been, to any great extent,

rendered accessible to the surgeon. The descriptions of operative technique are complete and clearly stated, whilst the historical accounts of the various procedures are of interest and of great value in demonstrating the lines along which such degree of perfection as exists in our present methods has been attained A. P.

Diseases of the Nose and Throat. By J. Price-Brown, M.B., L.R.C.P.E.; Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; Laryngologist to the Protestant Orphans' Home; Fellow of the American Laryngological, Rhinological and Otological Society; Member of the British Medical Association, the Pan-American Medical Congress, the Canadian Medical Association, the Ontario Medical Association, etc., etc. Illustrated with 159 engravings, including 6 full-page colored plates and 9 colored cuts in the text, many of them original. Philadelphia, New York, Chicago: F. A. Davis Company. 1900.

It may appear presumptuous for a general practitioner to review the work of a laryngologist; but our excuse must be that Dr. Price-Brown has written for the benefit and instruction of the general practitioner. Furthermore, as he is a man, who, since his student days, has been remarkable for industry and devotion to study, it is pleasing to his friends, among whom we claim a place, to see, in his maiden effort, how strong and well-cut a stone he has placed on the rising edifice of Canadian medical authorship.

Under the category of diseases of the respiratory system many works on the practice of medicine treat of acute and chronic rhinitis. The use of reflected light, the head mirror, rhinal mirror and a suitable speculum enable a practitioner to obtain accurate notions of the pathological conditions present in such cases, and to apply appropriate treatment, instead of following a less rational course founded on certain signs and the subjective symptoms of the patient. A similar observation applies to the diagnosis of acute and chronic laryngitis, edema of the glottis, etc.

If general practitioners were to accustom themselves to the use of suitable instruments in diagnosing diseases of the nose and throat they would certainly have more accurate ideas of their pathology, and, after considerable practice, would acquire the needed dexterity in applying local treatment to them.

In city practice, owing to the number of professional men engaged in nose and throat work, this is probably unnecessary; in the rural districts, however, a practitioner could with advantage to himself and relief to his patients devote time to the use of the necessary instruments, and to him this work should be most useful. It is also reasonable to think that physicians, more particularly those practising in country districts, should be prepared to practise intubation as well as perform tracheotomy. These operations, as well as the necessary instruments, are fully described in this work. The description of the various rhinal, pharyngeal and laryngeal diseases is given in a lucid and attractive style. We are also of the opinion that this work would be very useful to students in the final year.

The use of the metric system in the formulæ is a step in the right direction, though, for the benefit of those unfamiliar with it, a translation into the present system of prescription-writing is also supplied.

Operations for nasal deformities and operations for cleft palate are described in the last two chapters.

The work is handsomely printed and deserves a large sale. J. J. C.

Text-Book of Medical and Surgical Gynecology. For the use of Students and Practitioners. By R. W. Garrett, M.A., M.D., Professor of Obstetrics and Gynecology in the Medical Faculty, Queen's University, Kingston; Gynecologist to the Kingston General Hospital. R. Uglow & Co., Kingston, Ont.

This excellent little work more than fulfils the somewhat unpretentious claim made by the author, as an uncumbersome yet efficiently comprehensive

text-book for students and general practitioners. It takes up the entire field of gynecology and diseases of women, from a succinct yet quite complete description of the development of the female genitals to a proper consideration of the various affections of the mammary gland. The chapter on the anatomy of the pelvis and female organs of generation is clear and notes all important points. His gynecological technique is quite modern, and describes the most recent and advanced details for the necessary preparation of successful operative gynecology. Several methods of sterilizing catgut are given, but no mention is made of that prepared by Vanhorn & Co., of New York, used in many of the hospitals of that city, and which bacteriological tests have invariably proved sterile, which is put up conveniently for use, not expensive, and saves the busy general practitioner much labor in attempting to properly sterilize it. In the excellent chapter on post-operative treatment no mention is made of Clarke's postural method, which is one of the most valuable additions of recent years to the after treatment of laparotomy. The gynecological therapeutics, not only in the special chapter devoted to that subject, but throughout the book, could not be excelled, and will be found invaluable to the general practitioner.

The descriptions of the various operative procedures advised are lucidly given and usually the best and most successful methods only described, showing the author to be not only a successful teacher but a practitioner of large experience, who is practically familiar with the most recent and progressive surgical means of treatment. Kelly's successful and rapid method, however, of removing fibroids of the uterus is not referred to, nor is any mention made of Kelly's operation for complete repair of the perineum, although the methods described are good.

The work reflects great credit, not only upon the author himself, but also upon the old and respected school of medicine of which he is a most worthy representative. Evidently gynecology is taught scientifically and exhaustively at Queen's, as the work is apparently an extended compilation of the author's lectures and demonstrations. The book is profusely illustrated, which materially elucidates the text, and the author is deserving of the highest praise for the manner in which the various subjects have been presented.

As a text-book for students it will be found a model work, clear, comprehensive and sufficiently exhaustive, whilst general practitioners will find it a most readable, useful and practical work. G. T. M'K.

Venereal Diseases: Their Complications and Sequelæ. By EDWARD L. KEYES, A.M., M.D., late Professor of Dermatology and Genito-Urinary Surgery in Bellevue Hospital Medical College; Consulting Surgeon to Bellevue Hospital, etc., etc.; and CHAS. H. CHETWOOD, M.D., Professor of Genito-Urinary Surgery in the New York Polyclinic College and Hospital; Visiting Surgeon to Bellevue Hospital, etc. Illustrated by eight full-page plates in black and colors and 107 engravings. New York: Wm. Wood & Co. 1900.

This work is the outcome of the combined wide experience of Dr. E. L. Keyes, who nearly a quarter of a century ago wrote a somewhat similar book, and Dr. C. H. Chetwood, who, though younger than his partner, has given a great deal of attention to Urethral Surgery. The book is divided into two parts, the first dealing with acute and chronic urethritis, with their complications and sequelæ, the second with chancroid and syphilis. Dr. Pearce Bayley, Neurologist at St. Luke's Hospital, New York, has contributed a most interesting chapter on Nervous Syphilis. The section on syphilis by Dr. Keyes carries out the same ideas and teachings as were conveyed in the author's book of a good many years ago, laying principal stress upon that treatment of the disease by the prolonged and yet mild use of mercury, the drug being administered in such a way as not to salivate the patient, or prove at all noxious, but at the same time conquer the malady. A chapter which afforded us considerable interest in reading was that on stricture of the urethra, covering fifty pages and freely illustrated. The author does not particularly favor rapid dilatation as adopted by Tuttle, Oberländer and Kollman. He considers it too

rough, and that a great objection to it is that it exercises its extreme distention on a large portion of the urethra not included in the stricture. He thinks that rapid dilatation is but a compromise measure between the mild and slower means of progress in dilatation and the rapid immediate means of divulsion. Internal urethrotomy seems to meet with the greatest favor for the treatment of strictures, at least those far forward in the urethra. We think that Keyes and Chetwood's work will meet with considerable favor. W. A. Y.

International Clinics: On Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and specially prepared articles on treatment and drugs. Edited by Judson Doland, M.D. Vol. IV. Ninth Series, 1900. Philadelphia: J. B. Lippincott Company. Canadian Agent: Charles Roberts, Montreal.

In Volume IV. there are so many able articles that one hardly knows where to begin to discuss the more important ones. That by Sir Dyce Duckworth on "Morbid Proclivities or Diatheses" is good. Not only is it instructive in itself but it sets one thinking, a secret that but a few writers have learned. The article on "The Heart in Chronic Interstitial Nephritis," by Dr. Arthur H. Elliott, is well worth perusing. It calls attention to some facts that are too often lost sight of, and gives some useful hints as to the general hygiene of the patient. An article on "The Treatment of Acute Conjunctivitis," by Dr. Jackson, is rather too flippant in style to carry much weight, though there are some points in it of practical value. Dr. Ludwig Hekbaen contributes a valuable article on "The General Etiology of Actinomycosis." "Some of the Technical Points for Abdominal Section," by Chauncy D. Palmer, is a well-written article, founded on personal experience, and contains nothing that can be interpreted as dangerous practice, though the same may hardly be said of the article following it.

While the present volume contains much that is useful, it is hardly as full of practical information as some of the former volumes. F. N. G. S.

A Pocket Medical Dictionary, giving the pronunciation and definition of the principal words used in medicine and the collateral sciences, including very complete tables of clinical, eponymic terms, of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla and thermometric scales, and a dose list of drugs and their preparations, in both the English and metric systems of weights and measures. By Geo. M. Gould, A.M., M.D., author of "The Illustrated Medical Dictionary" and "The Student's Medical Dictionary;" editor of the *Philadelphia Medical Journal*; President, 1893-94, American Academy of Medicine. Fourth edition revised and enlarged, 30,000 words. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1900.

To get 30,000 words into so small a space, and give in addition their pronunciation and exact meaning, the whole forming a pocket dictionary selling at one dollar, is a triumph of the publisher's art. The fourth edition of Dr. Gould's "Pocket Medical Dictionary" is *a daisy*, and should be on the desk of every practitioner.

Letter-, Word-, and Mind- Blindness. By James Hinshelwood, M.A., M.D. London: H. K. Lewis, 88 pp., cr. 8vo. Price, three shillings.

"We are apt to forget that we see with our brains as well as with our eyes," says Dr. Hinshelwood. This is the keynote to his booklet. Memory is not an entity. We seem to possess a visual memory, an auditory memory, as well as memory for form, color, taste, muscular movement and so on. These forms of memory are no doubt intimately connected yet each is independent of the other, for any one may be completely lost, or may be abnormally developed, without any corresponding change in the others. The mathematical prodigy in whom the visual memory for figures is developed abnormally without a corresponding development for words is an example. More interesting to the physician are

those rare cases where one form of memory is lost, as in cases where the man can read figures correctly but is unable to recognize printed words.

The book can be recommended as most readable and interesting, bringing the literature of the subject up to date. J. M. M.

The Nervous System of the Child, its Growth and Health in Education. By Francis Warner, M.D. (Lond.), F.R.C.P., F.R.C.S. (Eng.), Physician to and Lecturer at the London Hospital, etc.; author of "The Study of Children and their School Training," etc. New York: The Macmillan Co.; London: Macmillan & Co., Limited. 1900. Toronto Depot: Tyrrell's Book Shop, 8 King Street West.

This book is not a large one, consisting of but two hundred pages, but it contains some material which must interest the medical practitioner. The author holds that by far too little study has been devoted to children and their habits, and to the great problems concerning the relation of mind and body in the child, laying stress also upon the fact how important it is to know what to look at and what to look for in the child as facts to be studied and aids to sound conclusions. The book will be the means of disseminating facts which ought to be more widely known, and we recommend it to all of our readers.

General and Local Anesthesia. By Aime Paul Heineck. Chicago: G. P. Engelhard & Co. 1900.

This small work consists of chapters on (1) General Anesthesia, and (2) Local Anesthesia. The first is subdivided into considerations of such subjects as Anesthetics in Childbirth, Selection of Anesthetic, Nature of Operation, Preparation of Patient, Precautions, Respiration of Patient, Condition of Circulatory and of the Central Nervous System, Accidents, Vomiting after Anesthesia, Post-Anesthetic Paralysis. The section on Local Anesthesia is devoted to such as the Advantages of Local over General Anesthetics, the Method of Application, Anesthesia by Refrigeration, the use of Cocaine in various operations, Cocaine as a Therapeutic Agent, Precautions for Cocaine Anesthesia, Accidents in Cocaine Anesthesia, and closes with a few pages on Infiltration Anesthesia. The book contains some good practical points.

Dr. Berkeley's Discovery. By Richard Slee and Cornelia A. Pratt. New York: Putnam's.

"Uncanny as it seems, it's the very chivalry of science, the knight-errantry of Pathology." It is in these words that one of the characters of this story addresses Berkeley of the title. As one will suspect, therefore, the attempt has been here made to utilize medical science in a literary plot. The attempt is not altogether a new one. Hall Caine, Ian Maclaren, Tolstoi, and others, have, with technique more or less faulty, made medicine a feature of their stories; but with what success the present writers have ventured on the experiment must be left to the judgment of those physicians who have an inclination to and the leisure for books of this sort. E. H. S.

Mentally Deficient Children: Their Treatment and Training. By G. E. Shuttleworth, M.D. 200 pages. London: H. K. Lewis. 1900. 5s.

This is an admirable little volume upon a subject which has received but scant attention from alienists, and less, if any at all, from the public. The chapter upon the pathological classification of forms of mental deficiency presents this feature of the subject in a very clear and concise manner. Especially timely is such a book in Canada, where the present system of education seems unable to cope with the conditions described in the present volume. The chapters upon treatment are full of very useful hints which could be applied either by the physician in private practice or by parents when they choose to undertake the cure of their unfortunate offspring. A number of appendices containing a large mass of information will be found very useful for reference.

E. H. S.

La Peste et Son Microbe: Sérothérapie et Vaccination. Par le Dr. Netter, Professeur agrégé à la Faculté de Médecine de Paris, membre du Comité Consultatif d'Hygiène Publique de France. One volume in 8o couronne de 124 pages, avec 5 planches hors texte et 2 tracés en couleurs, cartonné à l'anglaise. Prix, 4 francs. Georges Carre et C. Naud, Editeurs, 3 rue Racine, Paris.

Every physician, particularly if he be devoted to public health, should read this book ; for it contains the very latest information about the etiology, clinical history, prevention and treatment of the plague. The merits and demerits of Yersin's anti-plague serum and Hoffkine's anti-plague injections in the prevention and cure of this disease are fully described. J. J. C.

Consumption: Its Nature and Treatment. With a chapter on Bacteria and Antiseptics. By Wm. H. Spencer, M.A., M.D. (Cantab.), M.R.C.P. (Lond.), Consulting Physician to the Bristol Royal Infirmary ; formerly Lecturer on the Principles and Practice of Medicine, and on Pathology, at University College, Bristol Medical School. London : Henry J. Glaisher, 57 Wigmore Street, Cavendish Square W. 1900.

This pamphlet of eighty pages is composed of six lectures as delivered by the author at Bristol Royal Infirmary, and gives in a short, succinct manner information regarding the White Plague and the precautions which should be used to prevent and check its progress.

The Year-Book of the Nose, Throat, and Ear. The Nose and Throat by G. P. Head, M.D.; The Ear, by Albert H. Andrews, M.D., of the Post-Graduate Medical School of Chicago. Chicago: Medical Book Co.

The literature on the Throat, Nose and Ear has become so extensive that it is practically impossible for the busy practitioner to keep abreast of it. What the "Medical Annual" and the "Year-Book of Medicine and Surgery" do for general medicine, this volume seeks to do for these special branches. A welcome addition to one's library, it will, no doubt, as the other annuals mentioned, become more valuable with each appearing volume. J. M. M.

Kit Kennedy—Country Boy. By S. R. Crockett. Toronto : William Briggs.

To be a Scotchman is to be interested in Crockett's description of rural life in Auld Scotia. Of course, his point of view seems limited, but his characters are quaint and almost natural, seen amid their "ain surroundings. In this, as in other of his stories, there is a villain standing out as black 'as he makes them,' and rather out of proportion to the other psalm-singing portion of the community. However, surely the majority of Crockett's readers will say 'Kit Kennedy' is his best story."

MAGAZINES RECEIVED.

The leading article of the March *Scribner* was H. J. Whigham's second article on the Boer War, this one dealing with the fights made by Lord Methuen's division in its progress from the Orange River to the Modder River. Mr. Whigham described three battles, and this is the first continued magazine account of that campaign to be published. His own photographs and his own maps make perfectly clear to the general reader what has heretofore appeared as merely fragments of news in the daily press. The strategy, as well as the adventure of the campaign, appear clearly in Mr. Whigham's writings.

The third "Cromwell," by Theodore Roosevelt, deals with the second Civil War and the death of the King. The chief battle described is Preston, and the most dramatic event is the death of the King. Governor Roosevelt makes an interesting comparison between the conditions prevailing at the end of the

English Civil War and those after the American Civil War when even the Republican party was divided. The author also points out how the religious element entered into everything done by Cromwell, "mixing curiously with his hard common-sense and practical appreciation of worldly benefits." The illustrations are on an elaborate scale, and represent some of the very best work of English and of American artists.

The recent numbers of *Scribner's* have had articles exhibiting new developments in photography (notably the articles by Mr. Elmendorf and Mr. Stieglitz). This number contains an article, "New York at Night," by James B. Carrington, showing what can be done with the camera in reproducing night scenes in a great city. The illustrations are chosen from a series of night photographs made during several years, and they represent those picturesque scenes, many of them taken on dark and rainy nights, which are familiar to all New Yorkers, but are here for the first time reproduced photographically. Mr. Carrington's letterpress gives a vivid impression of the same scenes.

The International Monthly for March was of exceptional interest. It contained an article on "Degeneration: A Study in Anthropology," by W. W. Ireland, of Edinburgh; another entitled "John Ruskin, as Economist," by Patrick Geddes, of Edinburgh; "Some Recent Balzac Literature," by W. P. Trent; "Henry Irving," by Clement Scott; and "The Southern Question," by E. P. Clark, of New York.

PAMPHLETS RECEIVED.

"The Test of Time and Experience." We have received a most interesting pamphlet from Mr. Fellows, 48 Vesey Street, New York, the manufacturer of the well-known Syrup Hypophosphite bearing his name. The pamphlet is worthy of perusal, showing as it does that, in spite of the battle and the breeze, his preparation occupies the vanguard in steady advancement.

LITERARY NOTE.

R. L. Polk & Co., Detroit, Mich., publishers of *Polk's Medical and Surgical Register* of the United States and Canada, request that all practising physicians notify them of removals, new-comers, deaths, physicians retiring from practice, new medical societies, hospitals, asylums, sanitariums and mineral springs in their vicinity. This information will materially aid in revising the *Medical and Surgical Register*.

A Medical Woman on the Corset.—Among the Paris theses for the year 1898-99 is one by Mme. Tylicka, entitled *Du corset, ses mefaits au point de vue hygienique et pathologique.* From a brief summary in the *Gazette hebdomadaire de Medecine et de Chirurgie* for March 26th, we learn that Mme. Tylicka lays stress upon the respiratory, circulatory, and digestive troubles that the corset produces in the long-run. She would do away with it entirely, and substitute a waistcoat of heavy linen adjusted to the stature, reaching only to the waist, buttoned in front, and fortified with two whalebones on each side to sustain the breasts.

Selected Articles.

THE NEW HIGHWAY TO THE ORIENT.

Probably there is no journey, certainly none in Canada, which presents a greater diversity of scene than that of the Canadian transcontinental railway.

The voyage up the Great Lakes impresses one above all with the vastness of the great Dominion in which we live. In a couple of days one walks the deck of an ocean steamer out of sight of land —upon a Canadian lake!

Then comes a day in the wilderness. Interminable forests stretch away upon every side. Mountains which have not been named even, loom up in the distance; roaring cataracts and great silent rivers come pouring down from the regions of the unknown; solitary lakes without number shine upon every side, with no sign of life or habitation upon their lonely shores.

Then come the plains. Level, without a tree, unbroken by hill or valley, the prairies with their untrampled verdure stretch away for a thousand miles.

A couple of days the Pacific Overland Express thunders westward, when at last the plains gradually break into vast undulations like a gigantic tidal swell, and then in the west one beholds the foothills of the Rocky Mountains, whose peaks in the pellucid western air are clearly discernible, hours before even the first outworks are approached.

Hidden in the midst of the silent mountains, whose snowy ramparts of glimmering pearl rise into the upper sky upon every side, Banff, like some enchanted stronghold of mediæval legend, lies deep in the warm and sunny valley.

The marvels of this mountain scenery have so often been described that more need not be attempted here. The climate is Alpine, and has an atmosphere of such ethereal clearness, freshness and purity as at times to transport the visitor into an almost supernatural region. For the convenience of tourists and invalids there is a beautiful hotel, located conveniently to the Hot Springs, in the midst of splendid scenery, fitted up with all modern conveniences and open from May to October. In addition, there is the mountain sanitarium near by, under expert medical supervision. The springs are strongly sulphurized, and have been

supplied with bathing houses and attendants under the care of the Government. The effect of this climate and these hot springs on rheumatic affections and diseases of nutrition have now for years been favorably proven by hundreds of invalids, and medical men know full well also that the air and climatic surroundings of Banff are such as to be of great value to sufferers from hay fever, asthma, and like diseases.

The character of the water of these springs is gathered from the following analysis of a gallon, or 70,000 parts, with a temperature of 123 degrees Fahr.:

Chlorine (in chlorides)	0.42 grains.
Sulphuric Acid (SO_3)	38.50 "
Silica (SiO_2)	2.31 "
Lime (CaO)	24.85 "
Magnesia (MgO)	4.87 "
Alkalies (as Soda, NaO_2)	0.62 "
Lithium	A decided trace.

In and around here the gigantic architecture of nature, like some fabric raised at the beginning of all time by the hands of the Titans, greets the eye upon every side, and ever changing, ever new, fills the soul with a feeling of awe not unmixed with exultation.

Thirty-four miles west of Banff is Laggan, the station for the "Lakes in the Clouds." We must not fail to visit these lakes, which are of singular beauty, and are situated one above the other among the mountains, within easy reach of the station. On the margin of Lake Louise, the first reached, is a picturesque little chalet for tourists, and from here radiate easy paths to the Upper Lakes—Mirror and Agnes—and the aptly-named Paradise Valley and other picturesque spots. Two hours from Banff our train stops at a little station, and we are told that this is the summit of the Rocky Mountains, just a mile above the sea; but it is the summit only in an engineering sense, for the mountains still lift their white heads five thousand to seven thousand feet above us, and stretch away to the north-west and south-east like a great backbone, as indeed they are—"the back-bone of the Continent."

Two little streams begin here from a common source. The waters of one find their way down to the Saskatchewan and into Hudson Bay, and the other joins the flood which the Columbia pours into the Pacific Ocean. Passing down the Wapta or Kicking-Horse Pass, ten miles below the summit we round the base of Mount Stephen, a stupendous mountain rising directly from the railway to a height of more than eight thousand feet, holding on one of its shoulders, and almost over our heads, a glacier whose shining green ice, five hundred feet thick, is slowly crowded over a sheer precipice of dizzy height and crushed to atoms below.

MOUNT STEPHEN, FIELD, B.C.

BANFF HOTEL AND CANADIAN NATIONAL PARK.

From the railway, clinging to the mountain-side, we look down upon the river valley which, suddenly widening here, holds between the dark pine-clad mountains a mirror-like sheet of water, reflecting with startling fidelity each peak and precipice.

Still following the river, now crossing deep ravines, now piercing projecting rocky spurs, now quietly gliding through level park-like expanses of greensward, with beautiful trees, pretty lakelets and babbling brooks, with here and there a saw-mill, a slate-quarry or some other new industry, we soon enter a tremendous gorge, whose frowning walls, thousands of feet high, seem to overhang the boiling stream which frets and roars at their base, and this we follow for miles, half shut in from the daylight.

Two hours from the summit, and three thousand feet below it, the gorge suddenly expands, and we see before us high up against the sky a jagged line of snowy peaks of new forms and colors. A wide, deep, forest-covered valley intervenes, holding a broad and rapid river. This is the Columbia. The new mountains before us are the Selkirks, and we have now crossed the Rockies. Sweeping around into the Columbia Valley, we have a glorious mountain view. To the north and south, as far as the eye can reach, we have the Rockies on the one hand and the Selkirks on the other, widely differing in aspect, but each indescribably grand. Both rise from the river in a succession of tree-clad benches, and soon leaving the trees behind, shoot upward to the regions of perpetual snow and ice. The railway turns down the Columbia, following one of the river benches through gigantic trees for twenty miles to Donald, where, crossing the Columbia, and following it down through a great canyon, through tunnels and deep rock-cuttings, we shortly enter the Beaver Valley and commence the ascent of the Selkirks, and then for twenty miles we climb along the mountain sides, through dense forests of enormous trees, until, near the summit, we find ourselves in the midst of a wonderful group of peaks of fantastic shapes and many colors. At the summit itself, four thousand five hundred feet above tide-water, is a natural resting-place—a broad level area surrounded by mountain monarchs, all of them in the deadly embrace of glaciers. Strange, under this warm summer's sky, to see this battle going on between rocks and ice—a battle begun æons ago and to continue for æons to come! To the north, and so near us that we imagine we hear the cracking of the ice, is a great glacier whose clear green fissures we can plainly see. To the south is another, vastly larger, by the side of which the greatest of those of the Alps would be insignificant. Smaller glaciers find lodgement on all the mountain benches and slopes, whence innumerable sparkling cascades of ice-water come leaping down.

Passing westward, the air grows balmy with the breath of the

Pacific, whose tidal-waters are soon approached. Far away at the south-east, Mount Baker looms up all white and serene. At the north, and rising directly from the sea, is a beautiful group of the Cascade Mountains, bathed in a violet light and vividly reflected in the glassy waters of the inlet. Looking toward the west, out over English Bay and the Straits of Georgia, we see the dark blue mountains of Vancouver Island, and at the south-west, beyond the broad delta of the Fraser River, is the Olympic Range —a long line of opalescent peaks fading into the distance. At our feet is a busy scene. The city of Vancouver is new indeed; only one or two of its many buildings were here seven years ago— a forest stood here then. The men who built the town could not

GLACIER STATION AND HERMIT RANGE, B.C.

wait for bricks and mortar, and all the earlier houses were built of wood; but fire swept all of these away, and solid, handsome structures of brick and granite took their place. Down at the water's edge are long wharves where steamships from China and Japan, Australia, New Zealand, Hawaiian and Fijian Islands, from California, Puget Sound and Alaska, are discharging or taking in cargoes; and at the warehouses along the wharves are lines of railway cars loading for the Atlantic sea-board with teas, sugar, silk, seal-skins, fish, fruit and many other commodities. Here and there all around the inlet are great saw-mills, where steamships and sailing vessels are taking in timber and deals for China and Australia, South America, South Africa, and for Eng-

land. The great white steamship that catches the eye first among all the shipping in the harbor is one of the three swift and magnificent twin-screw steamships that have been placed on the route between Vancouver and Japan and China, by the Canadian Pacific Railway Company, the like of which has never been seen in Pacific waters—great steel steamships like the best of the Atlantic Liners, but more perfect and luxurious in their appointments. Think of it. We are within ten days of Yokohama—of wonderful Japan! Near by is another fine steamship of the first class; one of the new line to Honolulu (Hawaii), and Brisbane, and Sydney, Australia. And over against Vancouver Island are other columns of smoke, indicating the great coal mines from which nearly all the steamships of the Pacific are supplied.

Northward for twelve hundred miles through the Gulf of Georgia and the wonderful fiords of Alaska, where the mountains are embraced in a thousand arms of the sea, ply numerous steamers, crowded with tourists and with gold-seekers bound for the great mining regions of the far north. Southwestward the Straits of Fuca lead out past the entrance to Puget Sound, and past the city of Victoria to the open Pacific. All these waters, from Puget Sound to Alaska, hardly known a few years ago, are now dotted with all kinds of craft from the largest to the smallest, engaged in all manner of trade.

Something of interest always to physicians is the subject of climate. As to the Pacific Coast climate, Canada has the best example of an "Island climate" as known to Englishmen. Extremes of temperature, and especially of daily extremes, are almost unknown. This applies to all the islands and the coast line from Puget Sound northward through the Gulf of Georgia to Queen Charlotte Island, even to the 54th parallel. In all this country the fruits of temperate climates grow well, and farm animals live outdoors the year round. The rich bottoms of the Fraser delta have long been famous for their great hay crops and pasture lands; but here the extreme of rainfall is met, the mean for six years being 59.66 inches at New Westminster. The climate of the great Island of Vancouver, running north-west across two degrees of longitude and two degrees of latitude, presents every variety from that at the sea coast, with, as at Esquimalt, a very low daily range, and no annual extremes—the lowest temperature in two years being 8 degrees F., the lowest monthly average being 20 degrees F., and the highest in summer being 82 degrees F.—to that as above Alberni on the west coast, where the Vancouver range rises first into a plateau to 4,000 feet, and even to 7,500 feet in Victoria Peak.

By a comparison of Kamloops with Toronto we again see two climates, with almost the same annual mean, very different in the

important health elements of daily range and the number of rainy days. When the comparative low daily range, the very great number of days of bright sunshine and the high annual temperature, and especially the early advance of spring—as where the mean for March is 8 degrees higher for Kamloops as compared with Toronto—are noted, we see that in Kamloops we have a climate which possesses in a degree, probably not excelled in any climate in the world, the several elements which theory, as well as the experience of hundreds of persons, has proven to be of the greatest importance in the reconstruction of tissue and the rapid restoration to health of those persons suffering from consumption and other diseases due to defective nutrition. This country, described by a great Canadian statesman as a "sea of mountains," has golden treasures, not more for the adventurous spirits who delve deep into her granite mountain-sides, than for him who has wasted his energies in the gloomy counting-houses of some densely populated English city. To such a person, and to all continental readers, the comparison with the temperature of Birmingham, England, for 1896, must be of interest, as showing either that "Our Lady of the Snows" has transatlantic sisters, or that Canada, with her brighter skies, her drier and more stimulating air, may well lay claim to all the good qualities, and more, of climate, which all loyal Britons claim for their "Merrie England." Notably colder in November and December, Birmingham can claim to be milder than Victoria only in January and February, while the dry country of the inland plateau, with its eleven inches of annual rainfall, has a lower temperature only in January and February, with an atmosphere so dry and stimulating and a sunshine so bright that the snow is dry and fluffy and only serves to add a still greater purity to a climate which, like old wine, has been kept to the last to bestow its benefit upon mankind.

CHRONIC DYSPEPSIA SUCCESSFULLY TREATED WITH H_2O_2.

BY GEORGE A. GILBERT, M.D., DANBURY, CONN.

The case herewith subjoined is one of interest on account of its typical character, its long-standing, and its speedy recovery on the adoption of a rational treatment.

Peter H., aged 40, Hungarian, farm laborer, applied for treatment at my office on July 1st, 1899. He was a strapping fellow, mostly skin and bones, of about 170 pounds weight, and would not have been thought ill except for the prominent dark rings

under his eyes, his injected conjunctivæ, and a drawn, hunted expression on his countenance, indicative of past trouble or imminent danger. The history he gave was somewhat as follows:

Six years previously, on his voyage to this country, he suffered from an attack of acute gastritis, attendant with retchings of the most violent character. Soon after landing he recovered sufficiently to attend to his work; but he says he has "never been the same man since." In all this long period he has not eaten "a good square meal," nor enjoyed what he has eaten, the burning pain in the epigastrium, after meals, becoming so great occasionally that for fear of its repetition he has gone without food for two or three days at a time. Belching of enormous quantities of gas, too, is common with him soon after eating, thus evidencing the presence of undigested food with its resultant fermentation. The patient states, that in order to get relief he has spent all of his wages upon various doctors, specialists, quacks, nostrums, etc., and swears that he is worse to-day than on the day he first landed in this country.

On examination it was found that he was slightly feverish, pulse rapid, tongue flabby and heavily coated, while the teeth and entire cavity of the mouth were covered with a foul-smelling sticky mucus. That the stomach received, in the process of starch digestion, little or no assistance from the salivary glands of the mouth was plainly apparent. In deciding on the mode of treatment it was obvious that lack of the usual amount of gastric secretion must be met by restoring the physiological conditions upon which the secretion depends. In other words, in order to relieve the inflammatory condition of the gastric mucous membrane and restore the function of the peptic glands, antiseptics were required. The patient therefore was furnished with a flask of Ozonized water, made of one part Hydrozone to four parts of water, and directed to wash out his mouth every night and morning, thoroughly cleansing the tongue, teeth and gums of the unhealthy mucus and any pathogenic germs it might contain. To destroy the microbic elements of fermentation in the stomach and dissolve the tenacious mucus there, a mixture of one ounce of Hydrozone with two quarts of sterilized water was made, and half a tumblerful directed to be taken half an hour before meals. Having thus procured a clean surface in the stomach, the patient was advised to take immediately after meals, a drachm of Glycozone, diluted in a wineglassful of water, for the purpose of enhancing cellular action and stimulating healthy granulations. Of course he was ordered to sēlect his food with care and eat regularly.

The result of this simple procedure was magical. Although for the first two or three days there was some discomfort after

eating, this soon disappeared, and at the end of a fortnight the patient reported that for the first time in six years he was enabled to eat his meals without dread of subsequent distress and eructations of gas. (In the opinion of the writer the fermentation was thus quickly subdued by the active oxidation resulting from the liberation of nascent oxygen.) The treatment was continued in this manner for another month and then gradually abandoned. On September 1st the patient came to the office, expressed his eternal gratefulness, said that he weighed 185 pounds and believed himself to be completely cured.—*New Eng. Med. Monthly.*

MARK TWAIN ON CHRISTIAN SCIENCE.

THIS last summer, when I was on my way back to Vienna from the Appetite-Cure in the mountains, I fell over a cliff in the twilight and broke some arms, and legs, and one thing or another, and by good luck was found by some peasants who had lost an ass, and they carried me to the nearest habitation, which was one of those large, low, thatch-roofed farm-houses, with apartments in the garret for the family, and a cunning little porch under the deep gable decorated with boxes of bright-colored flowers and cats; on the ground floor a large and light sitting-room, separated from the milch-cattle apartment by a partition; and in the front yard rose stately and fine the wealth and pride of the house, the manure-pile.

There was a village a mile away, and a horse-doctor lived there, but there was no surgeon. It seemed a bad outlook; mine was distinctly a surgery case. Then it was remembered that a lady from Boston was summering in that village, and she was a Christian Science doctor, and could cure anything. So she was sent for. It was night by this time, and she could not conveniently come, but sent word that it was no matter, there was no hurry; she would give me "absent treatment" now, and come in the morning; meantime she begged me to make myself tranquil and comfortable, and remember that there was nothing the matter with me. . . .

It was a night of anguish, of course—at least, I supposed it was, for it had all the symptoms of it—but it passed at last, and the Christian Scientist came and I was glad. She was middle-aged, and large and bony, and erect, and had an austere face, a resolute jaw and a Roman beak, and was a widow in the third degree, and her name was Fuller. I was eager to get to business and find relief, but she was distressingly deliberate. She unpinned, and unhooked, and uncoupled her upholsteries one by one, abolished the wrinkles with a flirt of her hand, and hung the articles up; peeled off her gloves and disposed of them, got a book out of her hand-bag, then drew a chair to the bed-side, descended into it

without hurry, and I hung out my tongue. She said, with pity but without passion:

"Return it to its receptacle. We deal with the mind only, not with its dumb servants."

I could not offer my pulse, because the connection was broken; but she detected the apology before I could word it, and indicated by a negative tilt of her head that the pulse was another dumb servant that she had no use for. Then I thought I would tell her my symptoms and how I felt, so that she would understand the case; but that was another inconsequence. She did not need to know those things; moreover, my remark about how I felt was an abuse of language, a misapplication of terms—

"One does not *feel*," she explained; "there is no such thing as feeling; therefore, to speak of a non-existent thing as existent is a contradiction. Matter has no existence; nothing exists but mind; the mind cannot feel pain, it can only imagine it." . . .

"I am full of imaginary tortures," I said, "but I do not think I could be any more uncomfortable if they were real ones. What must I do to get rid of them?"

"There is no occasion to get rid of them, since they do not exist. They are illusions propagated by matter, and matter has no existence; there is no such thing as matter." . . . In her compassion she almost smiled. She would have smiled if there were any such thing as a smile.

"It is quite simple," she said; "the fundamental propositions of Christian Science explain it, and they are summarized in the four following self-evident propositions: 1. God is All in all. 2. God is good. God is mind. 3. God, Spirit, being all, nothing is matter. 4. Life, God, omnipotent Good, deny death, evil, sin, disease. There—now you see."

It seemed nebulous; it did not seem to say anything about the difficulty in hand—how non-existent matter can propagate illusions. I said with some hesitancy:

"Does—does it explain?"

"*Doesn't* it? Even if read backward it will do it."

With a budding hope, I asked her to do it backward.

"Very well. Disease sin evil death deny Good omnipotent God life matter is nothing all being Spirit God mind is God good is God all in All is God. There—do you understand now?"

"It—it—well, it is plainer than it was before; still—"

"Well?"

"Could you try it some more ways?"

"As many as you like; it always means the same. Interchanged in any way you please it cannot be made to mean anything different from what it means when put in any other way. Because it is perfect. You can jumble it all up, and it makes no difference; it always comes out the way it was before. It was a marvellous mind that produced it. As a mental *tour de force* it is without a mate; it defies alike the simple, the concrete and the occult." . . .

Under the powerful influence of the near treatment and the absent treatment together, my bones were gradually retreating inward and disappearing from view. The good work took a brisk start now, and went on quite swiftly. My body was diligently straining and stretching, this way and that, to accommodate the processes of restoration, and every minute or two I heard a dull click inside, and knew that the two ends of a fracture had been successfully joined. This muffled clicking, and gritting, and grinding, and rasping continued during the next three hours, and then stopped—the connections had all been made. All except dislocations: there were only seven of these: hips, shoulders, knees neck; so that was soon over; one after another they slipped into their sockets with a sound like pulling a distant cork, and I jumped up as good as new, as to frame-work, and sent for the horse-doctor.

I was obliged to do this because I had a stomachache and a cold in the head, and I was not willing to trust these things any longer in the hands of a woman whom I did not know, and in whose ability to successfully treat mere disease I had lost all confidence. My position was justified by the fact that the cold and the ache had been in her charge from the first, along with the fractures, but had experienced not a shade of relief; and, indeed, the ache was even growing worse and worse, and more and more bitter now, probably on account of the protracted abstention from food and drink. . . .

The Christian Scientist was not able to cure my stomachache and my cold; but the horse-doctor did it. This convinces me that Christian Science claims too much. In my opinion it ought to let diseases alone and confine itself to surgery. There it would have everything its own way. The horse-doctor charged me thirty kreutzers, and I paid him; in fact, I doubled it and gave him a shilling. Mrs. Fuller brought in an itemized bill for a crate of broken bones mended in two hundred and thirty-four places—one dollar per fracture.

"Nothing exists but mind?"

"Nothing," she answered. "All else is substanceless, all else is imaginary."

I gave her an imaginary check, and now she is suing me for substantial dollars. It looks inconsistent.—*Mark Twain in October Cosmopolitan*

DR. PETTYJOHN, OF ALMA, MICH., TO GO TO EUROPE FOR A YEAR'S REST AND STUDY.

Owing to the effect on the Doctor's health of exhausting, steady and continuous work at the Alma Sanitarium for the past seven years, and eighteen years in the practice of medicine (the anniversary of which the Doctor celebrated on February 22nd by a

dinner to the clergymen of the village and to his medical friends) with no vacation during this period, Dr. Pettyjohn has decided to relinquish his lease of the institution, and his medical practice, for a year's rest, travel, and study abroad. He will retain his interest in the Sanitarium and remain a member of the Board of Directors and Vice-President of the Company.

During the Doctor's medical management of the institution in these past years, having placed it on a highly scientific and medical basis, both to the satisfaction of the profession and the public, the reputation and patronage of the institution has gradually and constantly increased until it is now considered "The foremost ethical, medical institution in this country, and Dr. Pettyjohn the FIRST sanitarium physician in America." Under the Doctor's direction a thoroughly scientific and complete system of hydrotherapeutics has been developed and maintained, with regular sets of treatment for gastric neurasthenia, liver troubles, rheumatism, nervous diseases, tonic and nutritive effects. A training-school has been established, and applications are made by experienced nurses under the physician's direction. The institution has so won the confidence of the profession that nearly every patient is referred to its care by the home physician, whose diagnosis is considered and whose interests are conserved.

During his stay abroad the Doctor will continue the study of sanitarium methods at Matlack Banks in England, Nauheim and Carlsbad, and also as "Commissioner to visit the hospitals of the insane in Germany, Austria and France," appointed by the Governor of the State of Michigan. The Doctor will attend the thirteenth International Medical Congress in Paris, being a member of this organization, where he will present a paper before the section of Internal Pathology. The Doctor intends studying in Berlin, Paris and Vienna, following the lines in which he has attained distinction, those of Internal Medicine and Neurology.

During the past few years the Doctor has written, and they have been given wide publicity through the medical journals, the following articles: "Rheumatism, its Pathology and Modern Treatment;" "Erb's Primary Muscular Atrophy" (illustrated); "Chronic Internal Cerebral Meningitis;" "Functional Gastric Diseases and their Treatment;" "The Differential Diagnosis of Neurasthenia and its Treatment;" "Constipation, Some of its Effects, and its Non-Medicinal Treatment;" "Sleeplessness, its Cause and Treatment;" "Diabetes and its Constitutional Treatment;" "The Profession of Nursing," etc.

The Doctor will combine the pleasure of travel with his rest and study, and be accompanied by his entire family. The trip will be by the north of Ireland, across Scotland, through the east of England, Abbotsford, Durham, York and London, thence to

Brussels and the Paris Exposition. He will go with the medical excursion, leaving June 30th by the Anchor Line on the *City of Rome*. The Doctor and family will then leave the party and travel in Switzerland, down the Rhine, and locate for the winter in Berlin, where Mrs. Pettyjohn will pursue her musical studies, and his son Wallace continue his illustrative art. The Doctor will be in Chicago during the greater portion of May in attendance on the Methodist General Conference, to which he is a delegate. His Chicago address will be The Stewart Building, 92 State St. While it is not yet definitely decided, it is the wish of the Doctor's many medical friends that he take the college professorship he has been offered and locate in Chicago in consultation practice in his specialty.

Dr. and Mrs. Pettyjohn will be greatly missed socially in this village, where their pleasant and sociable ways have made them a host of friends who will join us in the best of wishes for their future. Our loss will be others' gain, and we prophesy that, wherever they locate, friends will flock to them as they always do to those whose companionship is so agreeable.—*Alma Argus* (Mich.)

DIONIN: A NEW MORPHINE DERIVATIVE.

A NEW morphine derivative has recently been introduced to which the name "dionin" has been given. It is described by Ludwig Hesse (*Pharm. Centralh.,* XL., p. 5) as the hydrochlorate of morphine mono-ethyl ether, or ethyl-morphine, having the composition

$$C_2H_5O\atop HO\Big>C_{17}H_{17}NOHCl\times H_2O.$$

It occurs as a white, somewhat bitter, micro-crystalline powder, which, under the microscope, is seen to consist of fine needles. It melts at 123 to 125 degrees C. and decomposes at the latter temperature. Dionin appears to be very serviceable, therapeutically, because it affords neutral solutions which may be advantageously employed subcutaneously. It is soluble in about seven parts of water, in about 1.4 parts of alcohol, and in about 20 parts of syrup; while it is insoluble in ether and in chloroform. It is precipitated from its solutions by most of the alkaloidal reagents. The pure base, morphine mono-ethyl ether or ethyl-morphine, is readily liberated by alkalies, and crystallizes from water also with one molecule of water of crystallization. It is quite insoluble in water, 1 part dissolving in 286 parts of the latter; it is very soluble, however, in alcohol, 100 parts of the latter dissolving 140 parts of the base. It is also easily soluble in ether, but

difficultly so in benzene, and is almost insoluble in benzin. Dionin has been employed by Dr. O. Schroder and by Dr. J. Korte (*Therap. Monatsh.*, XIII., p. 33) in a score or so of phthisical cases, and from the results obtained, the author believes that the preparation is of unquestionable value therapeutically. It appeared to be an excellent and reliable means in the treatment of cough due to irritation in the early stages of pulmonary phthisis; and he recommends it to be used instead of codeine and morphine in all cases of this disease that are not far advanced, as well as in chronic bronchitis, pulmonary emphysema, and bronchial asthma. Not a single failure was observed by the writer among the cases so far treated by him. The dyspnea and cough were always relieved, the asthmatic attacks cut short, and expectoration favorably influenced. Compared with morphine, dionin is more mildly narcotic in action, has scarcely ever any noticeable effect on the digestive tract, and has no noteworthy by-effects. Compared with codeine, on the other hand, it is found to be more powerful generally, and more persistent in action; it affords better and quieter sleep, and increases expectoration considerably. As a general analgesic, dionin is not as reliable as morphine, but it may, nevertheless, be employed in chronic, painful affections, either internally or subcutaneously, and as no tolerance or habit is ever established, may shield many patients from acquiring the morphine habit. Its particular sphere of action will, however, doubtless be in the treatment of coughs due to irritation, and those of bronchitis of every origin; in phthisical subjects, as it affords, besides, general quiet and good sleep, stimulates expectoration, and appears to exert also a beneficial influence on the night-sweats.

Dionin may be given in doses of 0.015 Gm. ($\frac{1}{4}$) several times daily, or in one dose of 0.03 Gm. in the evening, in solution, syrup, or pill form.

Liquid Air as a Cautery.—According to the *Tri-State Medical Journal and Practitioner* for March, the use of liquid air as a cautery is already spoken of favorably. It having a temperature of 312 degrees F. below zero, its action is, to all intents and purposes, the same as that of the most powerful actual cautery. It does not really burn, but utterly kills the tissues, leaving a blister not unlike a burn. Hence it has been suggested for cauterization in surgical practice. It is not only a good deal cheaper than the ordinary cautery, but it is much more efficient, and its action can be absolutely controlled. Indeed, a well-known surgeon has already performed a difficult operation on a cancer case with liquid air, and he has reported the case as cured.

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MEDICAL EVIDENCE.*

BY JOS. M'DOUGALL, ESQ.,
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Mr. President and Gentlemen of Toronto Medical Society:

Evidence is divided into two kinds: First, as to facts that have come under the observation of the witness; and second, evidence as to the interpretation of facts founded on knowledge possessed by witness of a special subject. A witness testifying as to the first class of evidence is styled a common witness; as to the second, an expert witness. A common witness gives evidence of the condition of the person examined by him, describes the wound, the condition of the patient, or other circumstances coming under his personal observation. An expert witness giving evidence acts only as an interpreter of facts, having himself no personal knowledge of them. As for example, referring to a wounded person, he is asked from a description of the wound to say if such a wound is dangerous to life. It is important that a person called to give expert testimony and asked to interpret facts testified to by other witnesses, should be present to hear the discussion on which the opinion is asked. It must be borne in mind that professional secrets are not protected. The witness is bound to answer all relevant questions put to him regarding the matters he may have had communicated to him by his patient while in attendance. This may be repugnant to his mind

* Epitome of an address delivered before the Toronto Medical Society.

and his conscience, but he has no option. In case he refuses to answer, he is liable to all the penalties for contempt. A clergyman is not privileged any more than a medical man. A witness may refresh his memory by looking at notes if such notes were made at the time or immediately after the happening of the events to which they relate. They must be his original notes, though, and not a copy; or should he use a copy, he ought to have with him the original notes, that they may be compared with the copy if desired. Thus he may refer to notes for measurements, names, places, etc., but should not read his notes as testimony, but refer to them only for his data. His testimony must be oral. It often happens that books are quoted by counsel as authorities for statements or contentions made by them. A medical expert witness or common witness, if asked questions upon these lines, disagreeing from the conclusions of counsel, should ask to see the book before contradicting, so that he may examine the context before he attempts to refute or contest the dictum of the writer. An expert's opinions are supposed to be the outcome of his own knowledge and experience, and therefore, if he is called upon to express an opinion upon a disputable question, he should hear the witnesses before being asked to give his own opinions upon the facts. The mere reading of the transcript of evidence given by witness is highly unsatisfactory as a method of preparation to answer theoretical propositions or give expert opinions. Then another important fact not to be overlooked, is that an expert witness, if present, is able frequently to suggest to counsel certain questions whereby doubtful facts can be cleared up, or needed data, not to be gathered from the facts stated by the witness, can be supplied.

It is highly important that professional jargon should be avoided as much as possible in the witness box. There are in almost every case English equivalents for medical forms of expression or medical terms. The impropriety and confusion likely to arise to lay minds by the use of technical and scientific expressions can be easily illustrated. A number of physicians listening to lawyers discussing a point of law in court would hear many expressions and terms which would be quite as unintelligible to the doctors as a similar technical medical account of the injuries of an individual would be to the jury, or to the counsel in the case. A description which might be suitable to a medical society would convey but little meaning to a jury. The effect of technical terms on a jury is confusing and misleading; as, for instance, the expression, "a black eye," is a simple thing and would indicate but a trifling offence, but to describe the condition as a large amount of extravasation of blood beneath the cuticle under the left orbit might in the minds of a juryman be the result of a

monstrous offence. In a very valuable little work written for the amusement and instruction of lawyers, the following illustration is given by the learned author. He says a medical man in giving evidence as to the condition of a man who had been assaulted, stated the condition of the victim as follows: "I discovered considerable ecchymosis under the left orbit caused by extravasation of blood beneath the cuticle." The learned judge interrupted and said: "I suppose you mean the man had a black eye?" The witness: "Precisely, my Lord." It is just as easy to say arm, elbow, knee, feet or head as to use Latin equivalents. The medical man should always use as simple language as possible, and preserve an attentive and impartial demeanor, and try to remember that every part of the body almost that can be thought of has an equivalent English name. You should also be sure that you understand the question. Be sure that the facts are sufficiently stated to form an opinion. It is much wiser to say you do not know than to give an ambiguous answer. If a counsel insists on an answer of yes or no, should the question allow such an answer, answer it; if it does not, qualify your answer and appeal to the Court to relieve you. Above all things, keep your temper. Do not volunteer information. If the counsel calling on you does not know enough to ask you proper questions, that is not your fault or your business. It is better to talk as if you were trying to explain or express your idea intelligently to a boy in the second or third class at a public school. Always consider the capacity of your audience to take in your meaning, and that you are giving your testimony to a number of laymen. Do not talk above people's heads. Medical men are prone to theorize. They are very tenacious of their opinions. They too often take diametrically opposite sides and arrive at opposite and diverse conclusions, not exactly from the same premises, but from a different conception of the same premises or from regarding them from a different standpoint. It often makes all the difference in the world whether a witness forms his opinion from the facts, or whether he starts a theory and then endeavors to make the facts square with them.

The general public have not a very high opinion of expert testimony. They believe that expert evidence can be hired. They believe that the number of experts obtainable on each side of the case is only limited by the length of purse of the litigants. They are of the opinion that most experts have no conscience or scruples as to which side they may be called on. That their attitude or the side for which they usually give their testimony is determined largely by questions of priority and the extent of the fee. It is also unfortunate that experts are frequently charged with partizanship; with occupying the position of hired advocates. The true position of an expert should be judicial, impartial and fair.

If called on one side, you unduly magnify the injuries, or if called by the other you unduly minimize—you are not acting fairly to yourself or to an honorable profession. If you say there is nothing in the injury, that it is only temporary and will quickly wear away, etc., etc., in a glib off-hand way, the jury probably won't believe you. You may question, are not lawyers open to similar criticism? My answer is, No, because the public know that the profession of a lawyer is to be the advocate of one side, and the public expect he will deal with one side of the case only and present it as favorably as possible. You must remember your reputation and the reputation of your learned profession. Fifty years of good honest service and honest conduct may be overridden by ten minutes of dis-service or ten minutes of bad conduct. There are good and bad members in both professions, and it is highly important that you should treat it as a serious matter. It is unwise to be jocular or flippant. Lawyers know human nature, and very often if they can trap a witness into appearing to be jocular, they immediately seize the opportunity to impress the jury when they come to address them with the consideration that a witness who was so lively and flippant is not to be trusted. The lecturer then enlarged upon the ethics of the two professions, and particularly as to those which should be observed by medical men when on the witness stand, and concluded his lecture by making some suggestions as to the requirements necessary in taking dying declarations, stating that it often happened that the medical man was the only available person of intelligence to make a note of serious statements which might become most material later, either upon the trial of an offender, or in some civil action.

He said: In taking dying declarations, it is necessary to be assured of the fact that the victim believes that he is dying. Such belief should also be stated in any written declaration signed. In other words, the written declaration should be preceded by a statement which indicated that the declarant was under that firm belief. If a magistrate is not procurable to take the deposition or statement, the medical man should take it. He should, if possible, have another witness present. If the victim cannot sign the statement, the medical man should read out his statement. He should satisfy himself that the victim is convinced that he is going to die and, as I said before, start his written account with statement of that fact. This statement should be unqualified. It won't do to start with such an expression as "No hope of my recovery at present." Such a qualification would utterly prevent its being used. The exact words of the victim should be written down. No questions should be asked, except to clear up any obscurity, and the statements should be limited to what was done to the deponent at the time that the injuries were inflicted. His own

actions are irrelevant. The statement when so prepared should be read over to the declarant and signed by him if possible. If another witness is present, both he and the doctor should sign the statement. Should death occur so rapidly as to prevent writing down the statement made by the dying man, the physician should listen carefully and take the earliest opportunity afterwards to write down the exact words and to sign it. Should there happen to have been another witness present who heard the same statement, the written statement should be read over to him and also signed by him.

In reference to the physical examination of persons for the purpose of forming opinions, you must remember that you can only make such examination with the person's consent. To attempt to do so by force is to commit an assault. No order of the Court directing the examination will justify the making of it against the will of the person to be examined. If the person to be examined refuses his consent, that ends the matter, and you can only report the fact to the Court.

DISEASE IN KOREA.

BY O. R. AVISON, M.D.

A STUDY of the diseases of a country involves an investigation of the habits and social conditions of its people, of the sanitary arrangements of its towns, and the topography and cultivation of its land. The first thing that strikes a foreign physician in Korea is the small size of the houses. They are of one story, have overhanging eaves some two or more feet wide which shut off the sunshine, are enclosed by a wall about five feet high within which is a court often not more than fifteen to twenty feet square. This court is often lower than the street, and across it runs an open gutter into which are thrown all sorts of refuse to be washed away when it rains. The rooms may be one to three in number, and are usually seven to eight feet square and seven feet high, but may be twice as long. The same room serves as dining room, living room and bedroom, and is consequently partly occupied by the cabinets which contain the clothing of the family, and by the quilts and thin mattresses, which at night constitute the beds, but which in the day time are rolled up and piled at one end of the room, the air space being so much the more curtailed. A door, which may be also the window, opens into this room, and is made of lattice-work over which paper is pasted to take the place of glass. Sometimes a small window, one by two feet, is placed on the oppo-

site side of the room, near the ceiling, which would serve nicely for ventilation purposes, did the occupants believe in such a thing, but, as they don't, it is oftener kept closed to make the room easier to heat. In this room the whole family sleep on the floor, parents and children, and oftentimes other relatives, the more the warmer, and the recollection of the odor that can be distinguished in one of our own well ventilated and commodious bedrooms in the morning, after a night's occupancy by even two persons will, in some measure, suggest the condition of the air in such a room as is described above.

Then, cleanliness of person is not a marked characteristic of the Korean people. They do not believe in winter baths, nor in too many summer ones, and so their skins become coated with the accumulations of the winter months, and free perspiration is one of the impossibilities. Their food, too, consisting largely of boiled rice, with very little animal food, is eaten rapidly, and on account of its nature is so bulky that digestive troubles are all too common, while the impure and promiscuous relations of the sexes is so common that venereal diseases constitute a considerable proportion of the cases that call for treatment.

Sanitation is a modern innovation that has not yet begun to trouble the minds of the dwellers in Korean communities, and so we find narrow streets, often only four to eight feet wide, although some streets in large cities are as much as sixty feet wide, with no drainage except open gutters along the sides, close to the foundations of the houses, which gutters contain all the refuse of the streets and houses, and retain it often, too, until a beneficent rain comes and washes it away. The waterclosets jut out from the sides of the houses or courtyards so as to overhang these gutters, and the night soil drops into them and forms one of the most striking features of the street scenes and odors to the newly-arrived foreigner. A peculiarity of these deposits is the almost constant presence of tape-worms and ordinary ascarides, so that one is almost forced to the conclusion that practically all Koreans are, during a great part of their lives, the hosts of those more or less troublesome intruders. Very little observation serves to discover the reasons for this. The neighborhood wells are frequently located at the side of the street, within two or three feet of these same gutters, and, being usually very shallow, often serve more as collectors of surface water and soakage from the gutters than as reservoirs of spring water, while the venders of vegetables often wash off the soil from the freshly-plucked lettuce and turnips in the water of the gutters, and give them a cleanness more apparent than real, and then the vegetables, being generally eaten uncooked, serve admirably as a means of transfer of the eggs of the tenia and ascaris from the gutter to the digestive tract of the unthinking

eater, and thus keep up the supply. The presence of these intestinal parasites is so constant that the average Korean believes them to be an integral part of his economy, and only thinks of interfering with them when they become so numerous as to annoy him with griping abdominal pains, which he invariably associates with their presence in numbers too great for his comfort, saying "the worms are coming up" in him.

I buy santonin in 20-lb. lots for use in our dispensary, and so useful is it that the Korean doctors have taken it up, and often send to us for two thousand worm-pills at once. Each pill contains 2 gr. santonin and 1 gr. calomel, and we put them up in the dispensary so that they are always fresh and soluble.

The most effective remedy we have found for tape-worm is the old extract of male fern, which we give in dram doses on an empty stomach, much to the satisfaction of the patient (after it is all over), but he often grumbles a good deal at the necessary fasting and preparation by cathartics.

Outside the towns and cities the chief agricultural crop is rice, and as almost all of it is of the lowland variety, it requires very wet soil, the fields being banked up and containing standing water most of the time. These rice fields are either the cause of a great deal of malaria or they are very much maligned. At any rate, malaria is one of the commonest diseases found in Korea, and usually is more frequent where rice fields are most numerous. The presence of mosquitoes in these localities may have something to do with the coincidence of malaria with rice fields if, as recent investigations appear to indicate, it be a fact that these humming birds of the night are the hosts of the malarial parasite outside the human body. Certain it is that rice fields, mosquitoes and malaria form a combination often found together. Some idea of the frequency of malarial attacks may be gathered from the fact that I have known six thousand ounces of quinine to be sold within one year by one man, who had not by any means a monopoly of the business. It was bought largely by native dealers, who took it into the interior and sold it out in single ounces, or often in 5-grain powders, and mainly for the relief of malaria.

This disease appears in all the forms noticed elsewhere—quotidian, tertian and quartan intermittent, with remittent of various types. While cases of all these types not infrequently come for treatment simultaneously, it is much more common for us to have a period marked by a preponderance of one of them, afterward a period during which another type prevails, and so on. They are all usually amenable to quinine, the average quantity given being thirty grains, in divided doses of five grains each, and generally no other medicine is required, but if recovery is not complete a second portion is given, or perhaps a week's treatment with

a mixture of quinine, arsenic, and nitro-hydrochloric acid. I have frequently treated cases successfully by a few enemata of three to five minim doses of ordinary carbolic acid.

Malaria very often seems to be associated with and to be a factor in the prolongation of many other diseases in Korea, even if it be not their exciting cause, and so we have innumerable cases of diarrhea and dysentery, general malaise, headache and neuralgia, which remain uncured by other forms of treatment, but yield readily when quinine is administered.

What has been said above will lead your readers to the ready conclusion that many of the illnesses of Korea belong to the class of dirt diseases, and such is the fact.

Outside of malaria, the fevers most prevalent are typhus and relapsing, and some of the eruptive fevers. Typhoid is not unknown, but is certainly rare, typhus apparently taking the place occupied by it in this country. This is the old spotted fever, and is one of the most dreaded of all the many sicknesses that Koreans are subject to. In former days, indeed so late as 1896, typhus fever patients were placed in small (very small) tents made of straw matting, erected in isolated places outside the towns, and there they awaited death or recovery, being attended by a relative who felt bound by ties of blood or affection to run the risks of the contact necessitated by waiting upon him. I have often visited these tents and, creeping through the small opening, sat by the side of the patient who lay on a mat on the ground, there being barely room for a second person inside the booth, and, myself almost smothered by the close odors, wondered that any ever recovered under such conditions. But then they would have been as badly off in their own homes, for they are afraid to ventilate the room of a fever patient. The poorer classes often were simply carried to the outside of the city and left lying on the roadside near the city wall, but it may be that these had even a better chance than had those who secured the supposed advantage of a booth; they got more air, at any rate.

One of my summers was chiefly spent in gathering such outcasts into a hospital which had been established for the purpose. The Koreans do not distinguish between typhus, relapsing, and remittent fevers, excepting that they realize that the *spotted* kind is more deadly, so I found that my patients were not all of a kind, but developed along those three types. The better food, the fresher air, and the tonic treatment we gave them greatly decreased the death-rate they were accustomed to. We found that most of the deaths occurred amongst the "spotted cases."

I speak of relapsing fever, but must do so a little guardedly, as I was unfortunately without a microscope when I had the opportunity to examine the blood, and so diagnosed the cases by their

symptoms only, but other physicians have also made the same diagnosis, and it is probably correct. I shall go back, however, better equipped in some ways, and hope to base future diagnoses on more exact knowledge.

Tuberculosis plays great havoc, being undoubtedly favored by the smallness of their houses, the very unsanitary condition of their surroundings, and the overcrowding of their sleeping apartments. In Korea, at any rate, whatever may be the case elsewhere, this disease does not result from the use of milk, as cows are used only as beasts of burden, never being subjected to the milking process, because the people do not use milk in any form. All forms of tubercular disease are observed—pulmonary, meningeal, and peritoneal—while diseases of bony tissues constitute a considerable proportion of the cases that are operated on in our hospital. Most of these appear to be tubercular, and include spinal column, all the joints, and the several long and flat bones.

Scrofular glands, too, are exceedingly common, and being left untreated for so long, or, if treated at all, subjected to the dirty, irritating applications of the native doctors, they come to us in very aggravated forms.

As hinted above, venereal diseases are exceedingly prevalent, but as they occur only in the forms that are prevalent here, no special description is necessary. Skin diseases are common in about the same ratio as in other lands, eczema leading easily, with scabies as a good second. We have found no other remedy for this so thorough and so rapid in its action as the golden wash, consisting of a solution of calcium sulphide, made by boiling together in water equal parts of slaked lime and sulphur.

Leprosy has gained a strong foothold in the south of the peninsula. It presents the usual varieties and aspects described in the text-books, *viz.*, tubercular or nodular, anesthetic, or nerve leprosy, and mixed.

While the uninitiated may find difficulty in diagnosing this disease, especially in its early manifestations, experience gives great facility in recognizing it, because of its very definite symptoms. The first of these to be developed is probably the anesthesia. This occurs in isolated spots, can almost always be found, and is generally considered to be pathognomonic in suspected cases, suspicion being aroused by a peculiar appearance of the face caused by a thickening of the skin of the lower half of the forehead, producing the so-called "leonine" countenance. A feature that strikes one forcibly is the aged expression of the face, a man of twenty years often having the appearance of fifty. This is caused by the wrinkling and thickening of the skin of the face, produced by the deposit of the so-called tuberculous matter in it.

Like the leprosy of other countries, that in Korea is apparently

only slightly contagious, for it spreads very slowly, and one case of a boy of about seventeen years of age was brought to me, who had suffered from the disease for seven years, during which time he had lived at home in one of the small houses I have described, in close contact with other members of the family, without any others developing the disease, and this is not an isolated example of such incidents. The development of the disease itself is also very slow, extending in many cases over a period of many years, the patients more often succumbing to other intercurrent troubles, to which the weakened resistance of the tissues renders the victim an easy prey. I should judge that this is the more common end of those unfortunates.

While an occasional case is found northwards, the disease is practically confined to the southern province, and to a somewhat circumscribed locality, so that it would appear to be dependent upon some undetermined conditions of soil (?). I have tried various methods of treatment, and find that the progress of the disease is favorably influenced by removal of the patient to an uninfected district, by attention to cleanliness, and by good food, and that while I have seen no instances of complete cure, I have seen very marked improvement follow the use of antisyphilitic remedies, more especially perchloride of mercury, under the influence of which, in doses of gr. 1-20th three times a day, I have observed severe ulcerations heal up, deposits in the skin become much thinner, the patient resume a younger and brighter aspect, and all the symptoms become markedly changed for the better, but the improvement invariably stopped short of recovery.

I have observed a peculiar disease, the English name of which I do not know. I have been unable to tabulate it under any of our lists. The natives speak of it as "tojil," which means place disease, as they believe it to be caused by drinking the water of certain localities. It appears to be distributed over the central and southern districts, but is limited to certain localities in these districts, and in those special localities a considerable number are affected. It is a chronic disease which runs a course of years before it destroys the patient, which it does in much the same way as pulmonary tuberculosis. The first symptoms are slight cough, with a little expectoration and slight general debility, but as the disease advances the cough becomes more troublesome, and the expectoration, which is more profuse and purulent, is tinged with blood, fresh and decomposed, and is foul-looking and foul-smelling. At the same time the ends of the fingers become clubbed in a marked degree, and form one of the most characteristic features of the condition. I have not observed in any cases any rise of temperature, there is absence of the hectic flush of phthisis, and although there is considerable debility, this is not

nearly so prominent a feature as one would expect from the amount of cough and expectoration. I have made frequent microscopic examination of the sputum, but have failed to discover the bacillus of tubercle, as has at least one other observer. I do not remember having seen any definite improvement from any of the lines of treatment I have attempted, and the natives do not appear to know of any successful remedy.

Beriberi is found in Korea, but appears to be practically confined to the Japanese residents. It follows the lines described in the text-books, but can scarcely be caused by the rice and fish diet, as this same diet is used by the Koreans, who are free from the disease.

Of the eruptive fevers, smallpox is the most common, almost all children having it before they are six years old, many families being childless because of it. So certain are they that their children will contract it, and so great is the death-rate, that mothers scarcely think it worth while to reckon as definite members of the family such children as have not yet had it.

Vaccination has been introduced, and has been so successful that many families have grown up of recent years untouched, as a result of which it is fast becoming popular, although prejudice dies as hard there as here. The foreigners, depending upon their vaccination, pay little attention to it, going in and out amongst it without fear.

It is said by anti-vaccinationists that vaccination is not a reliable protective, because sometimes those who have been vaccinated contract smallpox, but this argument is not effective, because even the disease itself, while almost always protective against a second attack, is not invariably so. I treated a case of this disease at our hospital in a young man who had previously had it, but in spite of his former attack, and in spite of treatment, the eruption became confluent and the patient died.

Scarlet fever and diphtheria are not prevalent, though they do occur, but measles are as general as in this land, and whooping-cough is also quite common. Asiatic cholera is not endemic, but is epidemic every few years. I went through one epidemic of it, and shall be quite satisfied not to repeat the experience. I can see even yet the rows of blue, cold, clammy, shrivelled, pulseless patients lying on the floor of the temporary hospital, vomiting, purging, crying out with pain, drawing up their cramped limbs, or tossing about with extreme restlessness, while the attendants passed from one case to another, rubbing the limbs and trying to maintain the circulation until the crisis should pass. I can see the dead being carried out to the improvised morgue, to be wrapped in straw mats and borne away to burial, while the vacant places on the floor were filled by new-comers equally blue and

pulseless as they had been. I can see the troubled looks of the doctors as they looked over the records and found a death-rate of 97 per cent., and wondered if nothing could be done to improve it.

All the remedies recommended by various writers were tried, but all seemed equally useless until we got the patients into better quarters where external heat could be used, and then a change came, and the death-rate fell to 65 per cent. The better quarters I refer to consisted of small rooms, having stone floors heated from below, so that the patient lying on the floor could be kept fairly warm and the vitality preserved until the severity of the disease had passed. We thought that salol was of definite assistance when administered in 10-gr. doses every one or two hours, in conjunction with the supply of external heat, but the progress of the disease is so rapid, and the mucous membrane of the digestive tract is throwing out material at such a rate that absorption of medicines and food probably scarcely takes place at all, and greater success comes from recognizing that fact and endeavoring to bring about a reaction and support vitality by the application of heat and friction of the surface than by relying on internal medication.

Thirst is one of the most troublesome symptoms, and although the patient is so cold externally, he will beg for copious drinks of cold water which, being promptly ejected, only adds to the certainty of more rapid collapse, but the slow sucking of bits of ice and the sipping of cold aerated drinks appear to give decided relief from vomiting and thirst. As the result of my summer's experience with the disease, if I were to be treated for it I would prefer to trust myself to clean, warm surroundings, application of plenty of external heat, high lavage of the bowels frequently administered, and free subcutaneous injections of saline solution, than to the administration of any or all the drugs of the pharmacopeia.

Dysentery is one of the plagues of Korea, is often very stubborn and as in other tropical and sub-tropical countries, is not infrequently followed by hepatic abscess. Two of the foreign trained nurses located in Seoul died of that complication. In such cases we prefer to operate as soon as the presence of pus is determined. The last case that came under my notice was a very severe one. The patient was brought in with a history of having slept on a cold floor one night, resulting in the onset of a chill, since which time he had grown worse until he reached his present condition which was as follows: Very anemic; general edema very great, even his face being much swollen; great dyspnea with cough and abundant purulent and brownish expectoration; left lung with a large cavity; right lung almost solidified from compression; apex beat of heart in left axillary line; marked bulging over liver

region, with liver dulness extending from between third and fourth ribs above to the level of the antero-superior iliac spine below, over all of which region he complained of pain and evinced tenderness on percussion; temperature variable; hectic flush frequent, with cold clammy perspiration in the intervals; pulse very rapid and sometimes difficult to find because of weakness and the edema. Aspiration obtained pus such as is usually found in liver abscess, from a point three inches below the last rib and two inches in front of the right axillary line, and also from the seventh interspace, and the diagnosis was hepatic abscess, with perforation into the left lung. We hesitated to operate on what seemed to be a hopeless case, but he pleaded so hard for us to try, even though he should die on the table, that we gave him chloroform very carefully, and made a free opening into the liver just in front of the cartilages of the lower ribs, and evacuated a large quantity of pus and broken down tissue. The cavity was so large that I could pass into it a 9-in. dressing forceps and move it freely from side to side. I should not omit to say that firm adhesions had formed between the liver and abdominal wall, which rendered the operation a comparatively simple one. Having passed in two large rubber drainage tubes, we put on plenty of dressings and awaited results. During the night he almost died from collapse, which we thought was due partly to shock, but he rallied towards morning and when, on the second day, we attempted to wash out the cavity, we discovered the cause of the shock in an extensive hemorrhage into the abscess cavity, which stopped only when the clot completely filled it, but fortunately in time to prevent death. We had considerable difficulty in breaking up and removing this clot, but eventually succeeded. When the cavity had been cleared of solid matter, air passed freely in and out of the drainage tubes to and from the perforated lung.

Microscopic examination of the pus from the liver revealed no amebæ, but only pus cells, liver cells, and broken down liver debris, while the sputum was of the same character. Recovery ultimately took place, and a letter received a few days ago spoke of him as being well and strong.

Fistula in ano is very common, and the cases are left untreated so long that they are sometimes very severe. In one case on which I operated the nates were so undermined with fistulæ, all connected with one another in a net-work, that I was compelled to operate in stages, and by actual measurement I cut through over fifty feet of fistulæ, and finally the buttocks were left covered with such a mass of nodules of cicatricial tissue that I had in the end to cut off almost all the skin and leave a smooth surface to heal by granulation.

Suicide is very frequently attempted. The importation and sale of opium is forbidden, but the Chinese often bring it in, and

so this is a commonly used poison for suicidal purposes. The choice of methods seems to vary at different periods. For several months, almost all the cases I am called to have taken opium, then will follow a period of throat-cutting, then for months most of the cases have used concentrated lye. This is certainly one of the most fearful modes they could adopt, for great suffering is caused, death comes but slowly, and even when the life is for the time being saved, the gradual contraction of cicatricial tissue in the esophagus often causes slow starvation and a terrible death.

One of these cases, an otherwise healthy young married woman, permitted us to attempt gastrostomy, which was successful, and she is still living after a period of two years, as strong and hearty as ever. She masticates her food and then transfers it into her stomach through a small rubber funnel taken from a stomach siphon. During the intervals between meals she stops up the opening with a glass stopper taken from a Worcestershire sauce bottle, held in place by a bandage.

All forms of eye disease come before us, but the most common is conjunctivitis, which is often a result of want of cleanliness. Next to it is corneal ulcer, often of syphilitic origin. Cataract cases are abundant, and nearly all of them do well after operation. Many eyes are lost from the inflammation accompanying smallpox, this being the ordinary cause of the great number of blind children that we meet.

Native Korean medical practice is a jumble of unscientific, haphazard attempts to interpret symptoms and administer remedies, the traditions of which have been handed down from the distant past by word of mouth, and in some cases by written description. The system has been obtained from China, and is similar to that in vogue there. There are two classes of doctors, one of them using medicines only, for the cure of all kinds of cases, the other despising medicines, and putting his faith in acupuncture, letting out through the little holes made by the needles the humors or disturbing influences which have caused the disease. Patients frequently survive both the medicines of the one and the operations of the other, but not always, for the latter gentlemen have no scruples about inserting their needles into joints and muscles, or even the abdominal cavity, and as their knowledge of bacteriology and the need for cleanliness is yet a minus quantity, their dirty needles often cause abscesses and inflammations which do great damage or even cause death.

They have no knowledge of anatomy, and therefore never attempt surgery, so in that line the foreign physician has a clear field. Prejudice in favor of their own methods is still strong in the minds of the majority of the people, and many consent to give the foreign doctor a trial only when they realize that death is threatening them in spite of their own doctor's efforts.

THE DOCTOR OF THE FUTURE.

BY ALBERT D. WATSON, M.D., TORONTO.

From many years of personal experience and careful observation, I am led to believe that no class of men is more unselfishly devoted to the work to which their lives are given, and none, not even the clergy, is freer from the mercenary blight of modern competition than the medical profession. Whatever, in the modern practice of medicine and surgery, is as it should not be, is as a general rule attributable to conditions which could be corrected by judicious societary reform. In a word, nearly all our needs and defects as a profession are due to extrinsic and not to intrinsic causes.

Like all other good men—and like bad men, too, for that matter—the doctor is often greatly misunderstood. In olden times, he was regarded as an oracle, whose dicta were the repositories of almost magical virtue, and whose acts were a veritable *arcana celestia*. In this age, when light escorts unsupported theories to the confines of the world and bows them out, the public is disenchanted; the doctor's infallibility is no longer a working theory; he has taken his place beside the seekers after truth, and none is more pleased than he. He is learning to use the culture medium, the microscope, and the syllogism so effectively that his statements of truth, based upon well-substantiated evidence, deduced from a sufficient range of experience, may once more come to be regarded almost, though not oracularly, as the *ipsissima verba Dei*.

Of the many nightmares that have cantered into the dreams of the profession within the last quarter of a century, the lodge-physician and the patent medicine are the most frightful; yet both are signs of the times. The lodge-physician is the forerunner of the state-physician, but lo! the state-physician is already in our midst, for has not every progressive community its medical health officer, and are we not constantly putting more diseases under his inspection, and have we not already put one disease into his hands exclusively, for treatment, and what physician will say that we should not do likewise with another, and that immediately? Let that brave who will say that tuberculosis should not be treated by a state-physician at the state's charge speak now, and all who hear him will hear a voice from the past.

The lodge is a combine; so also is the insurance company, the street railway company, the department store, the trust, the railway, the city waterworks department, the street commissioner's department, and every partnership on the planet. Every man or woman who writes a letter and mails it to a friend is aiding the

most powerful and highly organized combine known to history, and that physician who has a contract to attend the employees of any firm of merchants or manufacturers, or the workmen of any railroad or street railway company, and who at the same time opposes the principle of lodge practice, is a hypocrite. Let me hasten to say that the dear brother does not seem to know it, so we forgive him and leave him to think it over. The pale moon could as easily thwart the splendors of the dawn as could the medical profession abolish lodge practice, except by supplanting it by introducing state medicine and surgery. The lodge and all other combines, including the trust and the department store, must be extended till they assume national proportions; for the combine principle is all right when viewed from the interior. Let us, then, all get inside, and there will be no lodges left, their uses having vanished in the dawn of a science of national sociology, a universal art of social life.

What, then, of the patent medicine? It is certainly bad. Very bad! Some of our leading physicians, nevertheless, order such medicines in their prescriptions. Some of the professors in the medical faculties of our colleges and universities write prescriptions in which they order compounds, of whose ingredients they are ignorant. I know whereof I speak. What then? Let such persons be silent, or else defend their own practice in this matter. Under the system which is coming into vogue in the future, secrecy in making medicines and ignorance in prescribing them will cease. No intelligent person will then prescribe a medicine of which he does not know the ingredients, and let us hope that no fool will be left who will treat disease without knowing something of physiology, anatomy, pathology, and clinical medicine.

It is to be hoped that in the coming time the public will have more confidence in the physician than, perhaps, they have reason to have at present. The tendency of the public mind to draw conclusions from very partial knowledge is too prevalent in these times. One result of this tendency is the extravagant fear that is now prevalent in so many minds regarding the danger that is supposed to lurk in many essentially good things. The physician has difficulty in getting his patients, and the public generally, to breathe plenty of pure air, so thoroughly have they the fear of bogie draughts before their eyes. Even pure, cold water is banished from the dietary of many homes because of supposed deleterious qualities. The modern wiseacre shrivels his otherwise juicy anatomy into a bundle of desiccated tissues, or shatters the firm tone of his nerves by inordinate tea-bibbing, to avoid the use of drinking-water, which his prolific imagination fills with sprouting germs and

wriggling animalcula, with health-destroying and murderous micro-organisms of every description. It is a herculean task imposed upon the doctor—largely, I admit, by his own discoveries but nevertheless the task is imposed—of avoiding the rock of dangerous exposure on the one hand, and at the same time of keeping out of the whirlpool of fear on the other. How this will be remedied I do not know, unless by increasing knowledge and larger confidence in the harmony and healthfulness of nature, which will, I believe, largely remedy the evil.

Medical men have long been aware that the mental state has a profound influence upon the health of the patient. Not till recently, however, has the doctor given this matter the attention it deserves. The "Mental Scientist," the supernaturalist known as the "divine healer," even that absurd extremist, the "Christian Scientist," so called, has drawn the attention of the public, and by slow degrees, of the profession also, to the fact that cures of many painful affections are wrought by psychical influences. The interest and concern of medical men having been aroused, they will go over the whole ground and make new and more correct generalizations than have hitherto been received. That pain can be abolished, in many cases instantaneously, has been demonstrated beyond cavil. Even small tumors are often eradicated by its influence, time being in such cases required for this psychic process. The mass of evidence which supports the marvellous power of psychic influence in the hands of the unscientific is overwhelming. The dogmatism and fool-hardy ignorance of these people has led them into most grievous error, and has victimized hundreds of worthy citizens, but they who have never dogmatized from insufficient evidence should be the first to pelt these sinners with the stones of truth, and I, therefore, humbly forbear. The future will doubtless lead us into regular psychic paths, and shed harmonious light upon the fields of mental phenomena. Till a more thorough and scientific grasp of mental therapeutics is attained, the profession will feel safe in seeking to surround the lives of afflicted ones with all the hopefulness and strength and brightness which it is possible to command.

Every year, tendencies are manifested which are most significant as pointing with promise to the future, and indicating what the model doctor in the model state shall be. One such tendency is, to use less medicine than our predecessors were accustomed to prescribe. Some whole classes of remedies are almost gone out of use already; as, for instance, the emetics and the emmenagogues, while other classes are much less relied on than formerly for internal medication; as, the astringents, stimulants, diaphoretics, diuretics, and antiphlogistics. Wherever other means will accomplish the desired result, such means are chosen, as being of more

certain action, and less likely to disturb the normal functions of the body. This change has come about through a more thorough clinical and pathological investigation. Such causes will continue to operate till the amount of medicine used by the profession reaches a minimum. In the large majority of cases, the medicine taken in the future will be unauthorized and discountenanced by the profession. Taking medicine will be largely a function recommended by quacks, supported and practised by the ignorant, and, except in rare cases, tabooed by the intelligent. Doctors will no more be named appropriately "medical men," the administration of medicine having become one of his least important functions. Even now, most physicians treat without medicine such cases as seem not to require it, but there is a prejudice in the public mind against such a course, and a tonic is often given, more to satisfy such a feeling than to treat the disease, for that physician would be thought neglectful who would treat any disease without medicine.

There are those who claim that as intelligence increases in the community, there will be less need for the professions of law and medicine, till by and by the doctor will be defunct. They say that the doctor is fast demonstrating, in an absolutely scientific manner, his own uselessness. Others claim that every man will be his own doctor. In the past, the priest-physician mixed his potions and the tonsorial surgeon bled his victims, but it is said that in the future, though the auto-tonsorial craft will be extinct, every man will be his own priest, his own lawyer, and his own doctor.

There are others who say that very soon there will be no more sickness and no more death. The country is flooded with tracts setting forth this theory, but the "literature" which teaches it does not often reach the physician. Just think "how lovely" such a life would be! To get tangled inextricably in the wheels of an express train; to have one's head taken off "as clean as a whistle"; or to lose one's teeth by walking against a shelf in a somnambulistic frame of mind, and straightway to replace the anatomical fragments; to recapitate the headless trunk, and re-jaw the errant ivory by some process of mentation soon to dawn upon the initiated —surely this is a prospect worthy of our self-effacement; and we are quite ready to lay our heads upon the martyr-block of progress—metaphorically, I mean—only we want the undertaker to go, too; indeed, we prefer to have him go first.

Seriously, however, I believe that the doctor will never be defunct. There will always be teachers of truth and righteousness, and it may not be too great a strain of our imagination to call them clergymen. There will always be those—and may their tribe increase—whose duty it is to teach justice and equity to the citizens of the state, and to judge them in righteous-

ness; and why should we not call them lawyers? There will always be those who will teach the laws of health and life, and mitigate, by their medical and surgical skill, the accidents and afflictions of the race, and these will be doctors. The physician of the future will perform functions very different in many respects from those which are now regarded as the chief part of his work. His medical and surgical duties will dwindle to a fine point—fine, both in quantity and quality; for while such performances will rarely be necessary, they will be attended with a precision and effectiveness which is now seldom attained. Many of the diseases which prevail at present will be obsolete, and many more will be folding their tents in view of a speedy departure.

There will, nevertheless, be need of the doctor, and chiefly for the following uses:

1. To teach the laws of health and life; *i.e.,* he will be a doctor.

2. To supplement this teaching and advice, when necessary, with remedies to correct conditions which have resulted from inexperience or indiscretion in violation of these laws; *i.e.,* he will be a physician.

3. To mitigate the accidents of life, and overcome the effects, as far as may be, of infringements of the laws of life and nature, resulting in fractures, dislocations, poisonings, etc.; *i.e.,* he will be a surgeon.

4. The law of reproduction will make obstetrics a permanent science and art. Thus, he will be an obstetrician.

In the future, the first class of work named here will be the doctor's chief employment, requiring most of his time and thought and energy. The second and third classes will be modified and minimized and perfected so as essentially to change their nature, and also their relative importance. Many members of the profession are already giving much attention to teaching at the bedside, in the lecture-room and, indeed, upon every convenient occasion. We search the wide world in vain to find a parallel for this self-sacrificing conduct. The doctor is almost never paid for teaching, yet he teaches. If he teaches the people how to keep well, he cuts off a portion of his own income; yet he teaches. The public expect to pay only for the treatment of sickness; they do not think of paying for teaching. The doctor is regarded as a health restorer, not as a health preserver. This is in harmony with that feeling that so many harbor, that the clergyman is chiefly a fire-escape—a sky-pilot, and not a teacher of righteousness. The same view applied to the lawyer makes him one who keeps us out of prison. All of these views are suited only to a barbarous age. The doctor is not a cobbler of broken-down constitutions, he is the health champion of the nation, and will come to be regarded in that light when we come to our majority.

When we see and feel that it is worth more money to keep people well than to restore their health, we shall be willing to pay the doctor for being a doctor literally rather than a last resort in sickness.

The future doctor cannot be described without taking into account the progress which is likely to be made by other people. When health and comfort and fulness of life are the lot of all, there seems no good reason to doubt that the human face and form and movements will become indescribably beautiful and graceful. The average man will be more intelligent than our most enlightened citizens. This fact, and the general tendencies to change in the work of the physician, will make some modifications possible which would not be open to us now.

Important changes will take place in the distribution of work. When the nation becomes a society of brothers and sisters, and skill is the indispensable possession of every physician, it will matter little what doctor attends the patient in an emergency, and in all other cases the patient can have a choice. The doctor will be regarded as one of that vast societary army of heroes who make society great and progressive, and who will yet make it happy. In return, he will have provision for his comfort, health, recreation, and regular rest, similar to those accorded to other heroes of toil, of which good and necessary things he is now so ruthlessly deprived. This will mean more to the doctor than anyone not a doctor can know. The nervous shock of being called up from refreshing sleep time after time in the same night, and night after night in the same week, becomes a threat to the mental as well as to the physical health, and is all the more absurd and criminal because it is unnecessary. There are in the medical profession, as in all other callings, a few cranks and oddities, but in a society which is cohesive rather than separative, where efficiency has no exceptions, and all are brothers, each of whose interests is the concern of all, there would be no hardship if, to a slightly greater extent than now, we were to have some community of doctors.

Something of a parish system would no doubt be found to be effective, and in its operation great advantages would be found to accrue to both doctor and patient. Every serious case would have at least two doctors to attend it, so that every visit to such a case would involve a consultation. At present, consultations are often out of the question, even when we most desire them. There is the advantage to the patient of having a multitude of counsel, and to the doctor of having help, counsel, and a division of responsibility. Besides, there is the vast advantage to society of having careful and regular observation made and record kept of the history of every interesting case for the guidance of the profession in the

future. At present, this is often impossible because skilled attendants cannot be obtained to keep such a record. In regard to the surgery of the future, little remains to be said. The specialization of surgery will give the very best service, while the division of labor will make it certain that the surgeons will have time to rest and enjoy life. All important operations will be done in hospitals, which will be thoroughly equipped, so that the essentials of skilful, clean and scientific surgery will be available in every case, no matter who the patient may be.

The doctor, in his function of teacher, will be charged in the future with the task of giving instruction to young people in the art of preserving the health, so as to secure the highest degree of vigor in the whole community. This will mean that doctors will be appointed to attend to the teaching of hygiene and sanitation in all schools, and in this function they will replace the present teachers who have never had a training in the subjects of physiology and anatomy, both descriptive and practical.

One subject in which careful instruction will be given, pertains to the laws of sexual life, there being at present most lamentable ignorance in reference to all that sphere of human interests. Before reaching a marriageable age, every member of society should have information such as would save him from becoming a victim of his own ignorance or of the intrigues of dishonest advertisers.

Besides visiting the schools, it will be the doctor's duty to call at the homes of the people, to investigate their health and, wherever disease is found to be approaching, to forestall and prevent it if possible. Thus, typhoid fever and all other diseases which attack the body when in a lowered state of vitality will be greatly diminished in frequency or entirely abolished.

The personal element in the doctor of the future will be a potent factor of progress. Societies are, after all, aggregations of individuals, and as national righteousness, which is but right societary relationship, can be secured only by personal effort, it is clear that personal development and the perfection of the individual is the primary element in the process by which the perfection of society is attained. The personality of the doctor is, therefore, a very important element in the problem of human progress. As a man of thorough education, high attainments and deep sympathies, he will be one of the first to embody those qualities of power and influence which improve society and, by making men thoughtful, help to put them into the highroad to freedom.

In the future, immeasurably more than now, the doctor will be a man whom it will be a pleasure to meet. His comfortable presence, his sunny smile and hopeful words, his keenness of perception and breadth of culture, his profound scholarship and his greatness of heart, will make, altogether, a personality of confident

strength and helpfulness. Health will be shed from his person. He will move in an atmosphere of light and cheerfulness, so that his patient will be invigorated, spite of all opposing influences, by the irresistible assurance of his words and the quiet forcefulness of his character.

All the evidence that bears on the question goes to prove that health is more contagious than disease. Some of the present generation are evidently immune from this beneficent contagion, but probably in the coming time the prophylaxis of disease will be perfected, and all unnecessary sickness be a record of the past. We may hope that the whole community will contract an epidemic vigor of the most pronounced type, both mental and physical, and that society may become wholesome, and sickness be lonely in our midst, being far from home. In such a community we shall not be able to be sick; we shall not be able to be gloomy; brightness and comfort and peace and plenty and power shall be the attainments of all, for justice will be epidemic in society.

Such a beautiful picture is not to be realized in a day, nor in a year, nor perhaps in a decade; for these things must come by education and evolution, as all good things come. Nevertheless, the forces that were of old unrecognized, and therefore never put to work, will be harnessed; many new methods of their application will be discovered; whole armies of new workers will volunteer in the service of humanity, and the work will move with a constantly increasing impetus—an harmonic progression—which will outrun the most sanguine expectation.

I am sure that the doctors will be among the first to hail the era of justice and brotherhood and peace. Till then, we are the pitiable victims of a system for which we are all responsible, until we learn a better way and then "live the truth we know."

Filtered Milk.—Milk is filtered through sand in several European cities. By this process all dirt is removed, the number of bacteria is reduced one-third, and the quantity of mucus and slimy matter is greatly lessened, while the loss of fat in new milk is only slight. The filter consists of large cylindrical vessels divided by horizontal perforated diaphragms into five superposed compartments, of which the middle three are filled with fine clean sifted sand into three sizes, the coarsest being placed in the lowest and the finest in the topmost of the three compartments. The milk enters the lowest compartment through a pipe under gravitation pressure, and after having traversed the layers of sand from below upward, is carried by an overflow to a cooler fed with ice water, whence it passes into a cistern, from which it is drawn direct into the locked cans for distribution.—*The Dietetic and Hygienic Gazette.*

Pharmacology and Therapeutics.

IN CHARGE OF
A. J. HARRINGTON, M.D., M.R.C.S.(Eng.)

CLINICAL NOTES ON EUQUININE.

BY W. R. D. BLACKWOOD, M.D.

For many years past a substitute for the ordinary and much abused quinine, in all its various salts, has been sought, but with not much success. Many of the other salts obtained from the cinchona bark have been used as a remedy in such diseases as the main ingredient of the bark seemed invaluable in with more or less resulting disappointment. Every one knows that quinine has its defects, and some know that it has its dangers, but, all the same, it has been poured *ad libitum* into the stomachs of millions of victims who did not need it, and who suffered therefrom in maybe only a temporary inconvenience, or, too frequently, a real injury—for instance, a renal damage amounting to hematuria, or an acute otitis media, ending in permanent deafness.

The craze for ingesting quinine in every possible disease has caused an enormous amount of nervous disorder among business men, who keep the drug in their pockets just as they do car tickets. Many of the most serious cases which come under my notice are due to this drug. I feel safe in asserting that quinine causes more trouble to the community than morphine, although we do not hear so much about it. Drinkers and topers of opium and cocaine are spotted by most of their acquaintances, but the nerve tremor due to the salts of cinchona are put down to overwork, etc. Even medical men are frequently deceived by the symptoms, for I have had many cases sent to me where the cause was never suspected by the family doctor.

Now, as it is imperative at times that something which has the power to do what quinine will do is to be used as a remedial agent, it is a problem to find a substitute if there are reasons militating against the use of the cinchona salt, and what are we going to do about it? For nobody can question the fact that an intermittent must be treated by such agents as will combat the return of the chill, the fever and the ensuing debility.

No one can dispute the fact that for a long while we had to rely upon quinine as a febrifuge of great worth, and although it has its defects, it also has its virtues.

To-day we possess in the coal-tar products many efficient products which are invaluable in this direction, yet for many reasons they cannot always be employed. A main difficulty is the tendency to depress the heart, notwithstanding the addition of caffeine, ammonia or some such stimulant to the heart action. Most of our patients can be managed by careful attention in this direction, but there are cases which cannot be handled with due care even if the doses are small, and the added difficulty exists that all coal-tar drugs must be given in amounts sufficient to make a decided impression at once, otherwise they fail; they are useless, worse than useless, for time is lost.

Just here Euquinine comes in. Euquinine *is* quinine; it is not a substitute. Chemically, it has a hydrogen atom removed, for which is substituted a molecule of ethyl-carbonate. It is, therefore, a cincho-chlor-carbonate-ethyl. The taste is not at all bitter; it is not so even when retained in the mouth for a minute or so; it is the so-called "good quinine."

In small needle crystals it melts at 203 Fahr. It is not very soluble in water, but freely so in alcohol, ether and chloroform. The muriate is the most soluble, next the sulphate and the least the tannate. I do not think that the latter is reliable. It will not produce the effect for me that others believe they get, and if soluble in water (or nearly so) then it is not worth while to use it, unless treated with some other acid which would, of course, change its nature.

It can be given in milk, soup, wine or malt extracts. It will depress the temperature very readily and always without much effect on the heart action, but I have had no experience in heroic doses, as it has served my purpose in moderate ones of from two to five grains, it being about twice the strength of ordinary quinine. It has been administered in amounts up to 30 grains without bad results. It is, however, well not to try this plan in any case, for the same bad habit might thus be assumed as with quinine, for much of the harm attributable to the latter salt came from jugulating congestive remittents, intermittents and the like in those malarial-stricken districts where quinine was the breakfast, and, at times, the other meals likewise.

I do not propose to give detailed cases where Euquinine was used, but simply will refer to the results in such instances as have come under my notice personally.

In high temperature from any cause this medicament is quite useful, much more so than the ordinary quinine, and specially so with children and infants, who never forget the bad taste of

such drugs as were common to our boyhood days. Some children cannot be managed with or without force once they have been outraged with some of the nasty drugs ordinarily used, and this is of great moment at any time, but largely so where the illness is serious, particularly in the nervous maladies where struggling or excitement may turn the outcome from safety to death.

In the heat of typhoid Euquinine does nicely, so in pneumonia, and very satisfactorily so in pleurisy, where not only the fever but the pain is controlled nicely.

In the chest pains of phthisis this remedy is an appropriate article, being at once a tonic, an antisudorific and a remedy for the enhanced temperature.

In intercostal neuralgia Euquinine generally acts well, being apparently in this disorder better than for general neuralgias. I have not found it to do as well for the common neuralgias of the head, face and joints, yet with a small amount of acetanilid, bicarbonate of soda and caffeine (alkaloid, not one of the salts) Euquinine will give considerable relief, and the cinchona salt certainly has some part in the outcome, for, with equally small doses of the antithermic without Euquinine one does not attain the same result as with it.

Combined with phosphoric acid this drug makes a good tonic, and strychnine may be added if desired. A palatable method is to dissolve the dose required in a mixture of cardamon compound with aurani syrup (red) or elixir of curacoa. Another way is to use as follows:

℞ Liq. arsenic chlor..... ℥ iss
Euquinine..... gr. xlviij
Tr. lavand. comp..... ℥ j
Syr. vanilla.....q. s. ad. ℥ iij
M. Sig.—A teaspoonful in water every three hours or as needed.

In closing this paper I wish to enforce the fact that the article under consideration is *not a substitute for quinine,* it is quinine, molecularly altered by treatment in process of manufacture.

Our friend, Dr. Drodnax, whose lucid ideas and facile pen makes his writings so enjoyable, is doing a vast lot of good in bringing quinine back to its proper place. He is probably doing more than that, for, like the bleeding furor of long ago, the pendulum swung too far, and it has hardly yet gotten back to where that invaluable agent, venesection, really belongs. People die from pneumonia when they could be saved by timely and moderate bleeding, and so in apoplexies. Many should be saved who are lost by men who never saw a vein opened purposely as a remedial measure.

Quinine has slain its thousands who needed not a grain, yet it

has its place in therapeutics just like cod liver oil—plain, medicated or emulsified in whatever pasty manner—which has killed more victims of phthisis than it ever helped to get well, for once the stomach is disordered it is all up with the patient. Quinine is indispensable at times, and this new quinine is apparently a good article to use where cinchona salts are indicated, for the reasons given above. Much more could be said in its favor, but space is valuable in the *Summary,* and condensed papers are what the busy practitioner wants. Try Euquinine, my readers, and see for yourselves.—*Medical Summary.*

Rebreathed Air as a Poison per se.—Dr. John Hartley (*Lancet,* September 17th, 1898; *Journal of Laryngology, Rhinology and Otology,* April, 1899) says that the modern treatment of phthisis is made up of three essential factors: 1. The discontinuance of the supply of bacilli from without. 2. The abundance of nutritive material for the tissues. 3. The supply of an abundance of fresh air uncontaminated by the products of respiration. This seems to mean that the tissues, if not too enfeebled, may be trusted to deal with the bacilli already present if their metabolism is kept going at high pressure. Rebreathed air and sewer gas should not be looked upon as mere carriers of accidental poisons, but as poisons *per se.* Hence the writer enters a strong plea for thorough ventilation—a different thing from the small trinkle of air supplied by the tiny "ventilators" which are so hopelessly inadequate.

Liberty and Tuberculosis.—It is the conditions conducive to consumption that we have to combat, not the infection only; and thus we are brought face to face with an enormous question, namely, that of altering the conditions of life of man and the domestic animals. The policy of slaughter is now being much discussed, and there are those who would go needle in hand testing all our herds with tuberculin, and slaughtering those found to be infected. That is the extremest view; but what would even such measures do while the cows are kept in unhealthy byres—damp, ill-drained, devoid of light and ventilation—in which they remain imprisoned without exercise so long as milk will flow? These are the conditions which lead to tuberculosis, and killing a few thousand cattle does nothing to alter them. And so with man; removal of the infected, care as to expectoration, the boiling of milk, and all the rest of it, will do much. They are all useful measures, but they do not alter the conditions of life, and to alter the conditions of life is—well, is almost a social revolution, and one involving the loss of much that goes by the name of "liberty." —*The Hospital.*

Selected Articles.

THE LOCAL TREATMENT OF HEMORRHOIDS.

THE local treatment of external piles may be divided into the operative and the non-operative. The first is the preferable plan in nearly all instances. If, however, the patient refuses to submit to the same, recourse must be had to local application during the acute inflammatory stage. It is by this method only that we may expect a radical cure. It may be accomplished by (*a*) simple incision, or by (*b*) excision, or by (*c*) excision and primary suture of the cutaneous edges of the resulting wound.

(*a*) Simple incision is applicable only to the venous form, excluding the simple varicose variety, which latter, unless inflamed, hardly requires operative interference. The operation of incision consists in shaving the hair, cleansing the parts thoroughly, and rendering them as aseptic as possible; then anesthetizing the tumor by means of a hypodermic injection of a 4 per cent. solution of the hydrochlorate cocaine, of which ten minims usually suffice; or by a spray of ethyl chloride, which, however, hardens the parts so that the cutting must be done with a very sharp knife; or by freezing the pile with salt and ice, and then catching the tumor between the thumb and forefinger of the left hand, transfixing its base in the direction of the radiating folds of the anus with a curved bistoury, and cutting out; at the same time, by gentle pressure, the clot or clots may be extruded. The subsequent treatment consists in dusting iodoform, or aristol and boric acid, equal parts, or iodol, freely over the raw surface, being careful to see that the same is finely powdered and not lumpy; then applying a piece of lint that has been soaked in carbolized oil to the bottom of the wound, to prevent the sac refilling with blood and to enable healing to occur from below, instead of running the risk of the edges of the wound only uniting, and the formation of a superficial fistula thereby resulting. The patient should be advised to keep quiet for a few days, or, at least, not to take any active exercise. It takes about ten days for the healing process to be completed, and usually the relief from pain is immediate and complete.

(*b*) Excision is the form of treatment generally employed for the cure of all the various forms of external hemorrhoids. The technique is similar to that described for incision, with the exception that the pile is grasped by some suitable instrument, such as a hemostat, and the tumor is removed in its entirety by means of a

pair of scissors curved on the flat. In some instances a small artery may require a ligature. If the operation be properly performed, there will be none of the dangers (so frequently mentioned in the text-books) of the formation of a stricture. Iodoform, or some one of the combinations of the sterate of zinc or nosophen, is to be freely dusted over the raw surface, and a firm pad of gauze and cotton and a T-bandage complete the dressing.

(*c*) The essential difference between this method and the one just described consists in the close apposition of the wound by carefully-buried silkworm gut sutures. The following points might, however, bear emphasis. The tumor is anesthetized, and then grasped on either side of its long axis by hemostats. The necessary number of sutures are now inserted, care being taken to place them beneath the base of the pile, so that when the latter is excised the stitches will not be cut or exposed in the wound, but buried.

This plan of dealing with external hemorrhoids has proved most satisfactory, not alone to me, but likewise to the patient. They get well much quicker and suffer less annoyance than when the parts are left to granulate. The sutures are removed on the third day. In stout people I am in the habit of removing the stitches within forty-eight-hours, for fear of the tension producing a fistulous track.

Non-operative or palliative treatment consists primarily in keeping the parts thoroughly cleansed by bathing with warm water and castile soap, and in applying some soothing and astringent lotion during the acute inflammatory stage. The Messrs. Allingham advise for this purpose the following:

℞ Strong subacetate of lead solution ..... f ℥ i
Tincture of opium ..... f ℥ ½ M.

Sig.: One teaspoonful of the lotion to be mixed with one wineglassful of milk, and applied frequently to the anus.

Another formula which I have found very useful is as follows:

℞ Fluid extract of hamamelis..... f ℥ i
Fluid extract of hydrastis,
Compound tincture of benzion, ...āā f ℥ ½
Tincture of belladonna ..... ℥ i
Carbolized linseed or olive oil (5 per cent. carbolic acid) .....q. s. ad f ℥ iii. M.

Sig.: Apply often to the parts.

Hot or cold applications are often of service. Charles B. Ball, F.R.C.S., considers the local application of a mixture of the extract of belladonna and glycerine, smeared over the anus, and followed by a warm stupe, the best palliative treatment for external hemor-

rhoids. In addition the bowels should be freely moved, and a light, easily-digested diet, with rest in bed, prescribed. Any of these remedies will, as a rule, cause the inflammation to subside within a few days; but usually a thickened tag of skin is left, which is liable at any time, on the slightest provocation, to become inflamed.

THE TREATMENT OF ASTHMA AND HAY FEVER.

The treatment of asthma consists of: (1) Arrest of the paroxysm; (2) Prevention of the paroxysms by measures calculated to annul the effects of exciting factors; (3) Renewal of the pathological conditions forming the basis of the paroxysms.

Dr. Jas. F. Goodhart, of Guy's Hospital, says: "It seems impossible to doubt that asthma is one of those nervous actions of which we see so many examples in our economy, and which have been well called by Dr. Edward Liveing paroxysmal neuroses.

Epilepsy is one of those; some forms of insanity are others; migraine is another; asthma is another; and so on. Now, all these more or less obey this law, and the more they come the more they may. Nervous actions, which in their essence and imitation are not abnormal by excess of energy, or of frequency, or of both, become abnormal; and ultimately a bad habit becomes fixed. Surely both in epilepsy and asthma there is much of habit in the intractability of the disease, and if control is to be gained over either it must be by catching it in the earlier days of its appearance, and by arresting it before it becomes confirmed. We think that we can sometimes gain some control over the convulsions of infancy; we can perhaps keep them at bay sometimes, and so stop the child from becoming epileptic. But what case is more hopeless than that of the confirmed epileptic, even though he be persistently stupefied with bromides?

The case of asthma is a parallel one. It has been contended that it is a disease rather of childhood than of adult age; and that to pay attention to this fact and to the suggestions that flow therefrom, offers the best possible chance of stopping the attack, and of preventing the fixation of the habit and the establishment of chronic asthma. The chronic asthmatic is almost as hard to cope with as the chronic epileptic.

There are two methods of dealing with the asthmatic. On the one hand, we may attempt to make the environment of the patient conform to the conditions required by the individual; or, on the other hand, to harden the individual, to widen his range of accommodation, and so to make him less susceptible. And in the matter of drugs somewhat similar alternatives present themselves; we may either give sedatives to the over-sensitive nerve structures

concerned, or give drugs, if such there be, to raise the level of nervous action to that higher platform that shall enable the perceptive centres to take less heed of their unnatural worries.

But the asthmatic paroxysm is so distressing that almost always the treatment of it usurps the first place; and too often this urgency of the situation upsets the perspective. If we are called to a patient in the stress of a paroxysm of asthma, clearly, on all accounts, it must be arrested as quickly as may be; there is no time to be very careful and consistent about ways and means. And the quickest way to relieve a paroxysm of asthma is to make the patient inhale some fume or other, as of nitre, nitrite of amyl, or chloroform; or to give him an injection of morphia or a dose of chloral; indeed, as we all very well know, doctors see paroxysms of this kind less often, because various patent powders for creating fumes hold the field so largely that most people do without us, and stick to their patent remedy.

Thus the treatment of asthma too often becomes a repeated sacrifice to the paroxysm; and the patient drags along, thankful for the small mercy of temporary freedom from his troubles, and easy in his mind if he can carry in his pocket protection from those that are to come. But this plan of campaign is ultimately a most disastrous one. It unquestionably produces temporary ease, but what happens afterwards is this: The vapor, on reaching the mucous membrane, stupefies or exhausts the nervous centres, and stops the spasm for a time. But at the same time some of these remedies, by stimulating the mucous membrane and provoking the flow of mucus, make the local erethism rather worse than it was before. The more sedative kinds of inhalations do but appease by offering bribes to vicious nervous influences. By and by the nervous centres wake up again to find matters no better, rather the contrary; and then on comes the spasm again, and the whole process is repeated; and, with each repetition of the cycle, the nervous centres, as their nature is, become more exhausted or more irritable, their sleep is shorter, their spasm is more and more quickly repeated, and the poor patient ultimately lands himself, with perhaps some lessening of the severity of each paroxysm, in a more prolonged or persistent stuffiness hardly less distressing to bear; all day long he appeals to his powder, and becomes in fact the slave of an appetite that he has whetted and that he can not now control. Thus ends the chronic asthmatic who betakes himself to vapors. But this is not all, for by common consent a repeated application of some of these drugs, whether by making matters worse in the lungs, or by worrying the cardiac ganglia or what not, tends to dilatation of the heart, and is equivalent to a good many nails in the coffin of the asthmatic. Moreover, this dread of the paroxysm itself is carried into the preventive treat-

NEAR HUNTSVILLE, LAKE OF BAYS DISTRICT.

PENINSULAR LAKE, LAKE OF BAYS.

ment of the disease, and the patient is submitted to what may be called the glass-case treatment; that is to say, the temperament of the patient is ignored, or not considered of importance, and the disease is supposed to be brought on by chill. If he be wealthy and adventurous, he fights his environment by running away, and thus he may perhaps get along pretty well. If the patient be a child, it is probably kept in doors except in the finest of summer weather; yet, nevertheless, the history too often is that "it has caught another chill" but no one can say how. At first perhaps the child had the whole house to roam about in, but, as "the colds" recur, it is confined to one room with a south aspect; and yet things do not mend. So the doors of the room are carefully screened, the windows perhaps pasted up, and still the success being not all that can be desired, extra clothing may be piled on. And ultimately the doctor finds somewhere hidden under this heap of precautions a pale, moist, flabby, steamy thing, with big eyes, thin cheeks, protruding ribs, and a more or less general bronchitis, a case of "successful" management, because no attack has occurred for some weeks! But is this to be called success? This is to nurse the powers into imbecility, and the inevitable result is, that the first time the patient puts his head outside the door a fresh cold is "caught," and a fresh term of imprisonment is ordered. I venture to say that if asthma is to be prevented at all, it will never be kept at bay by hot-house treatment such as this. Yet unfortunately, it is easy to utter destructive criticisms of this sort, but difficult to point to a better way. I think there can be no doubt that the first requirement for the asthmatic is to put him into a climate in which he can be much out in the air. But there is the difficulty; we know so little about climate; and asthma is so individual a disease. No one can foresee in a particular case whether this place or that will be suitable; and, when the issue is doubtful, experiments in moving invalids about are never likely to be made with any great thoroughness. But for most asthmatic persons there is generally for each his own place or places where he is better or well. Thither he should be sent, at any rate, for a time. This place may be at the sea, or it may be inland; sometimes in a dry place, sometimes a humid; often even it is a large town: "In a great majority of cases an urban air is the air that cures; and of a city air that seems to be the best which is the most urban—the densest and smokiest" (Salter); but wherever it be, the patient should be out and about with very little restriction; and an attempt should be made by this means to render the morbid circuit less prone to discharge. Of games and sports, all should be encouraged that are outdoor and healthy and invigorating.

In diet, it is necessary to be careful, but not too much so. It

is very easy to give a number of restrictions about food, and thus to make matters worse; but asthma certainly often does seem to start from a meal that has not been digested—one which may have been too large or of an improper character, or taken at some irregular hour; the points to aim at are good, plain, light food in moderate quantity and slowly ingested. The asthmatic, particularly children, are often deprived of potatoes, of starchy puddings, jam and sugar, and goodness knows what else, and on the other hand are put on various meat juices and other good things in the wrong place, so as to remove all rocks of offence from the path of their pneumogastrics. But "if these things be done in the green tree, what shall be done in the dry?" What chance has such a child of reaching old age? Any food that is plain and wholesome, and not known to disagree, may be allowed. It is a good thing to have the chief meals early in the day, when digestion is vigorous; therefore breakfast and lunch—an early dinner—should be the main meals; anything taken later must be small in quantity and of the most digestible kind. All meals for the asthmatic should be small ones; the stomach should never be distended. The bowels should be kept carefully regulated and sufficiently open by taking some saline aperient, or other simple laxative. Every effort should be made to keep the patient in as healthy and physically fit a condition as possible. A tepid or cold bath should be taken in the early morning and the living room well ventilated.

These must be the general principles upon which to deal with the asthmatic; and the more unhesitatingly, the younger the patient, and the earlier in the course of the disease that he comes under treatment the better.

In considering the treatment by drugs, two divisions of the subject naturally suggest themselves; namely, those medicines that are useful in preventing asthma, and those which are so when the actual attack is threatening or in progress. Again, a distinction must be made between the cases which seem to be pure nervous asthma, those which have any degree of persistent bronchial catarrh, and those already mentioned, which come on in later life, and may not irrationally be attributed, on the one hand, to blood conditions that as a group may for convenience be called gouty, and on the other, to degenerative changes in the tissues.

As a preventive remedy in the pure form of asthma, no drug is in my opinion equal or nearly equal to arsenic. It should be taken for three or four weeks, then omitted, and then resumed after an interval of equal length; and so on for three or four courses; and the drug should from time to time be resorted to in periods when from any cause the nervous centres begin to show signs of lowered tone. I have not made much use of phosphorus, but it has been spoken well of, and it might also upon occasion be

of value; and so likewise with other good nerve tonics, such as bromides or hydrobromic acid.

The two chief drugs from which much benefit is often derived are strychnine, in three to five drop doses, given steadily for some days, and the iodides, which often prove of great value. Perhaps the one acts as a stimulant to the respiratory centre, the other as an expectorant. For the asthma that occurs in later life, an eliminant treatment is on the whole the best. It is in such cases that blue pill and colocynth in moderate doses once or twice a week are useful, or saline laxatives with careful attention to and restriction of diet. In these cases, again, iodide of potassium, perhaps by a depressing effect upon the arterial pressure, will often help very considerably.

My friend, Dr. Kingscote, maintains that the asthmatic state is much benefited by brine baths and systematic exercises, such as have been elaborated at Nauheim, for the treatment of certain forms of disease of the heart; one can well understand that means of this kind, by stimulating the circulation, and facilitating the flow of blood through the lungs, may prove of much service.

To relieve an attack, or the semi-asthma that forebodes or lingers after an attack, other means may be used. In the threatening of an attack, or in the dyspnea that lingers when the more acute symptoms have subsided, many drugs have been tried, and at one time or another succeeded. Of these I should put first a combination of iodide of potassium with the ethereal tincture of lobelia; five, ten, or even fifteen grains of the one, and ten to fifteen minims of the other, seem to bring relief when other things may have failed. Some prefer stramonium to the lobelia. The late Dr. Hyde Salter thought very highly of the Datura stramonium and the D. tatula; their best effects are observed when smoked like tobacco; but they may also be given in a pill, extract, or tincture. Sometimes a combination of iodide of potassium and chloral hydrate has been effectual. It is under such conditions as these that the Euphorbia pilulifera and grindelia robusta are most useful; the former may be given in a decoction, a wineglassful twice a day; or in tincture, ten to thirty minims, twice or three times a day, or as often as may be requisite. The grindelia is in the form of a liquid extract, and is given in similar doses to the tincture. This drug is also recommended at the onset of an attack, and half-hourly doses until relief has been attained. I have known it to produce decided relief, but I have not, upon the whole, been very successful either with this drug or with Euphorbia. In the thick of an attack, the remedies most in use are inhalations of various vapors; and of these perhaps the commonest and one of the most harmless, is blottingpaper soaked in nitrate of potash, which will often relieve, and sometimes very conspicuously.

LOVERS' WALK, LAKE OF BAYS.

There are many other powders made for the production of fumes. Some are stimulating, and seem to act by provoking cough and the free secretion of mucus; others, and these I believe the less harmful, are of a sedative nature. Some of them are made into cigarettes for smoking, and most of them contain stramonium in some form.

Of inhalations available for more strictly medical uses, three may be mentioned: Nitrate of amyl, iodic ether, spoken well of by Dr. Thorowgood, and of course chloroform. In severe cases, the last named may be of the greatest possible value, although its effect is apt to be but transitory, and the attack may resume its severity as the stupor of the drug wears off. Of all the other drugs that have been recommended for the relief of the paroxysms, morphine probably stands first; a hypodermic injection of a sixth of a grain will often produce almost immediate diminution of the violence of the dyspnea, which gradually ends in complete cessation of the spasm. Pilocarpine is also a valuable drug; a tenth to a quarter of a grain may be given hypodermically; a free secretion from the mouth and fauces is the result, the spasm being thus relieved. Sometimes the patient is sick, a thing by no means undesirable; for an emetic is one of the means advocated for arresting an attack, and no doubt sometimes with marked success. A combination of bromide of potassium and chloral is also a good sedative to give at the onset of a paroxysm. Belladonna, hyoscyamus, and conium, though not of so much value, are all of use in their way; tobacco is also said, by virtue of its powerful depressing action, to be a useful palliative drug. I have heard it said of pilocarpine that the remedy is worse than the disease, and, considering the distressing nature of the malady, this is a serious attack upon the benefit derived from it. If this be true as regards pilocarpine it must be still more apt for tobacco, which produces a dreadful malaise, and is a difficult drug to control in those who are unaccustomed to its use, in whom only it appears to have the effect wished for.

Of stimulants, too, coffee and alcohol may be mentioned. Strong coffee is indeed a popular remedy that has often given relief, as also has citrate of caffeine. As regards alcohol, I have no personal knowledge of any special virtue, but Hyde Salter says of it, that while in many cases it does not do much good, in some it has a most powerful effect, particularly when all other remedies have failed. It should be given hot and strong.

Hay fever, or hay asthma, is in the opinion of many a pure form of asthma, and with this opinion I myself coincide; it is accordingly more or less amenable, as are other forms of asthma, to treatment by drugs of the same character. I refer more particularly to arsenic; and I should maintain this even for nasal

cases; it relieves the itching and smarting of the eyes, the aching of the frontal sinuses, the itching of the nasal mucous membrane and of the nose itself, the sneezing, the watery discharge, the occlusion of the nostrils, the dryness and irritation of the lips and throat, but Karl Binz and others have maintained that local remedies, used upon germicide principles, give great relief in many of these cases; and those who have worked in the special department of diseases of the nose and throat declare that, by paying special attention to the morbid erectility of the mucous membrane over the spongy bones of the nose, this disease may be much reduced. Binz advocated the irrigation of the nostrils with a solution of quinine; Sir Andrew Clark suggested some carbolic preparation; and of late many have tried the application of solutions of cocaine, more upon alleviative than upon curative principles, perhaps; unless alleviation be an earnest of cure.

No one can doubt that these various measures are all useful in their proper place, nor can anyone doubt that they have their dangers. For instance, I saw but the other day a lady who for the discomfort arising from the frequently recurring turgidity of the nostrils, which is characteristic of hay fever, had betaken herself by medical advice or without it to the use of cocaine locally. Accordingly, more or less both by night and day, she would pack her nostrils with a solution of cocaine, of which one grain at each time was put into each nostril; and thereafter, by means of hawking and spitting, and other contortions of her pharyngeal muscles, the solution was spread all over the affected area, and temporary ease was obtained. At least six grains a day were thus disposed of and sometimes more. The position to take with regard to local treatment is this, as it seems to me: the local symptoms are not the disease, and therefore, however necessary it may be at times to relieve conditions that cause great distress by means of this kind, they may do harm by inducing other morbid changes in the part, and conditions that were but temporary may thus be rendered permanent. For instance, a paroxysmal sneezing will stop immediately under the influence of some diverting train of thought, just as asthma will stop under any sudden and powerful mental stimulus. All must agree that if there be any actual disease of the mucous membrane, whether due to the existence of polypus, of a deflected septum or what not, it must be advisable to get the mucous surface into as healthy a state as possible, so as to remove one obvious source of possible irritation. But for cases of asthma in which there is no definite nasal worry, the question must at any rate be considered an open one. If the neurotic origin of the disease be accepted, as I think it must, no one can rest content with the treatment of a peripheral symptom. Still, if it can be shown that a large measure of relief is thus obtained, such an

RABBIT BAY, LAKE OF BAYS.

ROUNDING A BEND, MAGNETAWAN RIVER.

experience must of course be utilized upon the principle that half a loaf is better than no bread. The difficulty of arriving at any sound conclusion as to the value of such treatment lies in this, that the specialist and the physician see the cases at different times—the one in the first flush of that post-operative quiescence that we all so well recognize as a characteristic of nervous ailments; the other, when that quiescence has passed off, and the old habit has resumed its sway. I have known some patients to be apparently benefited, but others who have not received any adequate reward.

Thousands of people throughout the habitable globe suffer annually from the most distressing and annoying ailment, hay fever, many of whom are not convalescent for weeks after an attack of the malady, and often days of rest and recuperation are necessary to get back one's strength and accustomed health. The disease is also called by other names, such as autumn catarrh, hay asthma, and rose catarrh. In some cases it comes on in June, with the advent of the roses; in others with the new-mown hay; but in the vast majority during the month of August. The complaint usually continues until frosty weather, and is aggravated by dust, by riding in street cars, and by the pollen of hay or flowers. Few in Canada are aware that almost within a stone's throw (comparatively speaking) of their own doors, lies a locality rich in beautiful scenery, replete with historical interest, a land where health and pleasure go hand in hand, and where perfect immunity from hay fever is assured. This region is the Muskoka Lakes District and the Georgian Bay District combined, situated in the "Highlands of Ontario," the former one hundred and twelve miles north of Toronto, and the latter occupying that vast area west of the Muskoka Lakes District, including the thirty thousand islands of the great eastern arm of Lake Huron, and which are rapidly coming into prominence throughout the continent as the Mecca of the tourist and a haven for those suffering from the malady above mentioned.

A change of climate for the relief of the complaint is always commendable where such weeds and flowers as ragweed, golden-rod or honeysuckle are not indigenous, as these and many other flowers and grasses aggravate the disease. Many localities have been recommended, such as mountainous regions and the sea coast, but generally at these resorts a great deal depends upon the vagaries of the wind, and results are not always satisfactory, as if the wind should blow off shore, as it frequently does, there is no relief.

In Muskoka and Georgian Bay Districts the conditions are different, and it is of no consequence which way the wind blows. As there are very few farm lands in evidence, and no cultivated fields, golden-rod and the other flowers and grasses are conspicuous by their absence.

The Muskoka Lakes District covers an area of vast extent, and comprises some eight hundred water courses, including lakes, rivers and streams, and it is at an altitude of one thousand feet above the sea-level. Those in search of health will find the purity of air and general surroundings most beneficial.

The most satisfactory treatment after all is climatic. The only effectual remedy for hay fever consists in removal to a region which is exempt from the disease. By going to such a locality before the attack occurs, and remaining there through the critical period, complete immunity from the disease may be secured.

The time of departure and return must be determined by the previous experience of the person in regard to the date upon which his former attacks have commenced, as the disease seldom comes on exactly the same day every year, but often varies three or four days. The sufferer should be in a place of refuge at least a week before the usual time of attack, and should remain there until he can return in perfect safety.

This is usually about the middle of July, in the early or rose cold, and after the severe frost, severe enough to kill the vegetation, in the autumnal form.

In fact, the person affected must find a spot where the exciting causes of the disease are absent. The atmosphere in the Muskoka Lakes and Georgian Bay Districts is completely free from the irritating stimuli which induce this painful and distressing affection. The country is covered by forests and interspersed with innumerable lakes, and is not an agricultural country. The geological formation is Laurentian (granite); there is no dust in the air. The water is soft and free from lime. The general elevation of the district is about one thousand feet above sea-level.

Many of the prescriptions and medicines that can be given and taken by the patient suffering from hay fever are more or less useless, and are the means sometimes of only affording temporary relief. However, there is an easy escape from the malady, and thousands of persons have already availed themselves of the opportunity offered in the beautiful and attractive regions situate in the Highlands of Ontario. Each season hundreds of people go into these districts to find relief from this annoying disease, of whom some have been making it their summer home for years, and others are attracted to this vast pleasure-ground by what they had heard from friends as to the complete immunity from hay fever existing there.

A sufferer from hay fever, in an article on the same subject in the *American Angler,* January, 1899, writes: "Of course thousands of remedies have been offered and tried, but the time and money spent in the trial has generally been wasted, for a partial relief, if any, could only be obtained, and the causes yet remained.

Therefore, in place of heroic sufferings, the only course for a subject of hay fever to pursue, if relief is desired, is to flee from the infected atmosphere and deleterious influences to regions where the air and surroundings are free from the sources of his trouble."

The Muskoka Lakes and Georgian Bay Districts are totally exempt from the causes of the trouble, and immediate relief and a decided cure is assured all who visit this beautiful locality. The main considerations in choosing these regions, in preference to other localities, are:

1. Relief and total immunity from hay fever.
2. Easy accessibility and moderate hotel rates.
3. Good postal service, express and telegraph, railroad and steamboat facilities.
4. Beautifully secluded and charming camping grounds.
5. Good hotel accommodation on all the principal lakes.
6. The adaptability of the surroundings to meet the various or varying modes of invalids, tourists, or sportsmen.
7. The wooded shores of the lakes and rivers, principally balsam and pine, is also one of the accountable reasons for the curative and healing properties in the atmosphere.

This incomparable range of waters, studded over a vast area like crystalline gems set with emeralds, in one of those gorgeous pictures of nature which defy the power of creative genius to depict, and baffles the skill of brightest imitation, is without doubt the tourist's Mecca of North America, and a land which must be seen to be appreciated. Restful and peaceful pleasures are to be found on every hand, while the eye and heart are enjoying the beautiful scenes spread out before one, while comfortably ensconced on the deck of one of the well equipped and handsomely fitted up steamers which ply these waters, or while comfortably lounging on the verandas of the well appointed and unique hotels throughout the district. In fact, on every hand stands forth nature in all her untouched beauty and magnificence, to charm the heart of the beholder.

The localities mentioned, though rich and varied in their countless attractions for the pleasure-seeker and tourist, are also full of interest for the angler and sportsman. The waters of the lakes teem with the gamiest of bass and the weightiest maskinonge, while speckled and salmon trout are numerous in some parts. For the hunter, deer, bear, fox, ducks, partridge, and other game can be found in goodly numbers.

What has been stated in this article regarding the therapeutic effect of the climate of Muskoka in the treatment of asthma and hay fever refers as much to many other pulmonary complaints, such as chronic bronchitis.

The hotel accommodation at Rosseau, Port Carling, and Beaumaris, as also various other points in the Muskoka District, has recently undergone great changes for the better. To several of those comfortable hostelries additions have been made in the form of wings, until now there is nothing so soothing to the business man, who is hard at work fifty weeks every year, as a visit for ten days or two weeks at some of the points mentioned, where for a small sum of money expended he can secure most comfortable, cool, sleeping apartments, as clean as a new pin, in close proximity to the edge of the lake, with nothing to disturb his slumbers but

A QUIET NOOK 'MONG THE 30,000 ISLANDS.

the lapping of the water upon the adjacent rocks and the hum of a very occasional mosquito.

Next season there will be completed in Lake Rosseau one of the most palatial hotels in America. The hotel property consists of about 131 acres, midway between Port Carling and Rosseau, having a shore line of nearly three and a half miles, two large sandy bathing beaches, a spacious land-locked bay, and timbered with magnificent pine, hemlock, beech, and maple trees. The attractions of fishing, yachting, boating and canoeing familiar to Muskoka will be supplemented, we understand, by excellent golf links, for which part of the property is peculiarly well adapted. The hotel will have 250 bedrooms and be four stories in height.

The ground plan of the building is in the form of a cross, permitting thus an unimpeded view of the beautiful surrounding scenery from every room. The building is to be lighted by electricity and have an extended system of bathrooms and perfect sanitation, characteristic of the highest type of modern hotels. It is also the purpose of another company to build a circuit of first-class hotels at some of the most attractive points in the Ontario Highlands, property options having been secured for charming locations at Lake Muskoka, Lake Joseph, Lake of Bays, Lake Couchiching, and Jackson's Point, Lake Simcoe.

It will thus be seen that no longer will there be the necessity for the cry for additional hotel accommodation in Muskoka and other Northern Lakes as has been the case for years past, and physicians will be able to rest assured when they send their patients up through this region that they will get the very best of care and the more rapidly recuperate from their various ailments.

ARMY MEDICAL STAFF.

A MILITIA order published these commissions in the army medical staff on the 20th ult.:

To be lieutenant-colonels: Lieut.-Col. J. H. L. Neilson, Surgeon-Lieut.-Cols. C. C. Sewell, from the R. C. A.; A. Codd, from the R. C. D.; G. S. Ryerson, Lieut.-Col. W. Tobin, from the unattached list.

To be majors: Majors A. Worthington, A. B. Osborne, C. W. Wilson, W. Nattress, H. S. Birkett, E. E. King, C. W. Belton, J. D. Brousseau, E. Fiset, from the unattached list; Major C. C. Jones, Surgeon-Lieut. J. T. Fotheringham from the 2nd Battalion. The following on probation, not yet qualified: Major J. E. March, from the unattached list; Surgeon-Major J. H. Bell, from the retired list; Major C. E. Elliott, J. W. Bridges, E. B. Echlin, R. H. Abbott, from the unattached list.

To be captains on probation: Surgeon-Lieuts. J. A. Sponagle, from the 69th Battalion; S. D. Johnson, from the 82nd Battalion; M. McLaren, from the 62nd Battalion; H. J. Harrison, from the 59th Battalion; G. S. Rennie, from the 13th Battalion; G. H. Parke, from the 8th Battalion; A. N. Hayes, from the 27th Battalion; H. A. Archambault, from the 65th Battalion; A. Y. Scott (late 2nd Battalion).

To be lieutenants: Lieut. J. A. Devine, from the unattached list. The following on probation, not yet qualified: J. Herald, O. L. Berdan, A. A. Schaffer, H. B. Anderson, W. W. Thompson, R. F. Preston, D. A. Stewart, J. A. P. McCabe, L. R. Murray,

H. P. Fleming, from the unattached list; J. A. Ross, A.M.S.; R. Ovens, K. Cameron, J. H. Cormack, W. I. Senkler, from the unattached list; 2nd Lieut. E. D. Farrell, A.M.S.; Lieut. E. W. F. Gorrell, from the reserve of officers; J. T. Clarke, H. A. Bruce, F. Fenton, J. M. Cotton, A. T. Shillington.

To be 2nd lieutenants (supernumerary): Lieuts. A. A. McCrimmon, H. H. Sinclair, from the unattached list; J. O. Orr, D. W. McPherson, H. J. Hamilton, C. A. Hodgetts, G. G. Turcott, J. A. Roberts, L. Drum, D. E. Mundell, G. S. Cameron.

The following officers are allotted to the medical corps units:

Bearer companies—No. 2 Company, officer commanding, Major E. B. Echlin; No. 3 Company, officer commanding, Major H. S. Birkett; No. 4 Company, officer commanding, Major J. T. Fotheringham; No. 5 Company, officer commanding, Capt. G. H. Parke.

Field hospitals—No. 2 Company, officer commanding, Major R. H. Abbott; No. 3 Company, officer commanding, Major C. W. Wilson; No. 4 Company, officer commanding, Capt. A. Y. Scott; No. 5 Company, officer commanding, Major C. E. Elliott.

Dr. C. R. Church died suddenly at Ottawa on the 20th ult. He was fifty-nine years of age.

The class of doctors' horses in Toronto must be improving, judging from some of the entries in the recent horse show made by our local medicos. After a while there will have to be a special class for the doctor's nobbiest turn-out.

The Chas. S. Gray Deaconess Hospital was opened under very favorable auspices at Ironton, O., on the 5th ultimo. It was largely due to the strenuous efforts of Dr. Lester Keller that this new institution has received so enthusiastic a send-off.

Drs. W. J. Wilson, G. Carveth, and Lelia Davis announce to the profession generally that they are prepared to make examinations of tumors, sputa, urine, etc. The work is done at the Western Hospital Laboratories. For full information, physicians should apply to the nurse in charge of Laboratory.

Our readers will be pleased to peruse in this issue, amongst other papers, original articles from the pens of Judge McDougall and Dr. O. R. Avison, the former based upon a discussion which took place at Toronto Medical Society a few weeks ago. Dr. Avison, who is spending a few months in his native city, and earning a much-needed rest from his labors, expects to return to his work of self-denial and missionary effort in Corea this summer. We thank both gentlemen for their contributions.

The Canadian Journal of Medicine and Surgery

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Medical Jurisprudence and Toxicology—N. A. POWELL, M.D., Toronto, and W. A. YOUNG, M.D., L.R.C.P. Lond., Toronto.

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Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

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Pharmacology and Therapeutics—A. J. HARRINGTON, M.D., M.R.C.S.Eng., Toronto.

Physiology—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

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Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Outdoor Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Bacteriologist to Ontario Provincial Board of Health.

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Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifteenth of the preceding month.

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Editorials.

EXPERIMENTAL PRODUCTION OF GOUT.

DR. ROMME abstracts in *La Presse Medicale* an article by H. Kionka (*Berliner klinische Wochenschrift,* 1900, No. 1. p. 7), in which some interesting facts are given respecting the production of experimental gout in domestic fowls. The fowls were kept in cages and fed exclusively on hashed horse-meat, which had

been previously stripped of sinew and fat, as much water as they wished to drink being also allowed.

The fowls took to the new diet very rapidly, and at the start it seemed to agree with them very well. But, after some time, ordinarily in from three to five months, they began to show signs of disorders presenting all the characteristics of gout.

The disease assumed different forms. In one variety, in which the symptoms appeared at an early date and ran a rapid course, the first change observed in the fowls was that their gait became uncertain, and that they fell to the ground after hopping off the perch. The weakness in their legs went on increasing, and on certain days when probably the pains were felt with more severity, they remained lying down, with their legs drawn under them, and took no food. Their joints were manifestly swollen. These attacks lasted a few days, after which the swelling of the joints disappeared, and the fowls again began to eat and walk about.

After some time, the attacks became more and more frequent, appetite disappeared, the fowls became thin and died. In this form of the disease, slightly marked deposits of urates were found around the joints when examined *post mortem.* The tophi were well developed in a second variety of the disease, which was not attended with real attacks of gout, as in the first mentioned cases, but which presented only a simple, temporary aggravation of the accidents of gout, *i.e.*, an uncertain gait and pain in walking. In these cases, when examined *post mortem,* the tophi, which were well marked, were found in the joints and between the sheaths of the tendons of the legs and claws. The third variety of gout affected the viscera, with deposits of urates on the serous membranes, and infarcts of uric acid in the kidneys. In all these varieties of gout the kidneys of the fowls, when examined *post mortem,* were found to be affected with gouty nephritis. There was infiltration of the small cells of the kidneys, the epithelium of the convoluted tubes had disappeared, and did not stain well, and there was also obstruction of the tubuli with urates.

The interstitial changes in the fowls fed on meat presented the following characters: With 150 grammes of meat a day, and water *ad libitum,* the weight of the total excrements ranged from 200 to 380 grammes, and from ten to twelve grammes of dry

matter. The quantity of nitrogen eliminated each day oscillated between grammes 3.40 and 5.40; ammonia, gramme 0.30 (average). The quantity of uric acid was very large, ranging from 7 to 11 grammes a day.

When lime, in the form of pulverized egg-shells, was given to the fowls, in quantities of 10 grammes a day, the interstitial changes were modified in the following manner: The quantity of excrements was increased, sometimes exceeding 500 grammes a day, with 30 grammes of dry matter; at the same time, the reaction, which had previously been acid, became alkaline. The elimination of nitrogen was unchanged, that of ammonia was slightly increased, and the quantity of uric acid was lowered by from 40 to 50 per cent., fluctuating between grammes 3.50 and 6 per diem.

J. J. C.

MERCHANDISE AND BUBONIC PLAGUE.

In a letter from Dr. Montizambert, read in the Canadian Senate by the Hon. David Mills during a discussion on bubonic plague, the statement occurs that "it has not been proved that plague was carried by merchandise."

We do not know if this opinion is founded on original observation, or if it is a repetition of an opinion emitted by another writer. For instance, Dr. Walter Wyman, Surgeon-General of the Marine Hospital Service, U.S.A., in a report recently published by the Secretary of State, Treasury Department, U.S.A., holds that "it has not been distinctly proved that merchandise plays a part in the spread of plague." He observes that "the vitality of the plague bacillus outside the human body is very short, and its virulence is rapidly lost under conditions of heat, light, exposure to sun, air, etc." As the reader might conclude from such observations that merchandise forwarded from India and China, countries which are remarkable for solar heat and light, would be amply disinfected before their arrival at our docks, it is only fair to state the whole truth. Heat, light and desiccation do destroy the virulence of the plague bacillus, and dampness, darkness and a low temperature promote its survival.

Netter, in a book published this year at Paris, "La Peste et son Microbe," refers to Buchanan's report upon cases of illness,

suspected to be bubonic plague, occurring in the port of London, XXVIth Report of the Local Government Board, 1896-97. It appears that two Portuguese cooks died of plague at the London Seaman's Hospital on the 27th of September and the 3rd of October, 1896. These men belonged to the crew of a ship, which had cleared from Bombay on the 21st of August and been docked in London on the 19th of September. The other members of the crew, numbering 199 seamen, and the passengers, 119 persons, showed no signs of the disease. The cooks took no part in unloading the ship. They, however, had brought over in their luggage some articles of wearing apparel, neckties and fancy handkerchiefs, which they had purchased at Bombay, and after they arrived at London, they took them out of their trunks and used them as part of their dress.

Netter says: "I think we can agree with Buchanan's opinion, which has been accepted by the English sanitary authority. The articles of dress, purchased at Bombay, had served as a means of introducing the contagion of plague, which had preserved its virulence for a whole month. There is only an apparent contradiction between these epidemiological facts and certain laboratory experiments. On the surfaces of these goods, which had been kept in trunks in a cool, dark place, the pathogenic agents were placed in conditions dissimilar to those acting on plague bacilli, which are spread on sheets of glass or attached to silk threads, both of which are exposed to the action of light and air, and he adds in italics: *"The dampness and darkness, which prevail in the hold of a vessel, are precisely the conditions which are extremely favorable to the preservation of the plague bacillus."*

It would not be reasonable, therefore, to conclude that there is no risk of introducing plague into Canada from China by the means of merchandise.

If further proof were required to show that the contagion of plague adheres to goods and objects handled by persons ill with plague (particularly the minor ambulant form), it would be found in the regulations pursued at Bombay for restricting the progress of the reigning epidemic. Persons, who have come into contact with cases of plague, are removed to a "contact camp," where they receive an antiseptic bath, and their clothes or other objects belonging to them are disinfected. They are obliged to

remain in the camp for seven days. Out of 5,503 suspects, 131 cases of plague developed, or 4.44 per cent. There is nothing new in all these preventive measures applied to clothing or goods. Similar precautions had to be taken centuries ago in the different countries of Europe, when the most civilized nations of the world were struggling to put down the plague. If Europeans are now more fortunate than their ancestors in the prophylaxis of this formidable disease, part of the reason of their success may be found in the fact, that the discovery of plague can be made with dispatch, owing to the certainty and promptitude of a bacteriological diagnosis. The necessary preventive measures, isolation of cases and suspects, destruction of goods, clothing, etc., can thus be taken before the contagion has had time to spread. For these reasons, therefore, we think that goods or merchandise, particularly second-hand clothing, etc., forwarded to Canada or brought by emigrants to Canada, from ports in China infected with plague, should be disinfected under the scrutiny of a Canadian agent before they are shipped to this country. J. J. C.

WHAT'S IN A NAME?

"Who steals my purse steals trash, but he who steals my good name——." Perhaps this quotation is rather a grandiloquent introduction to the few feeble remarks we have to make upon the abbreviation in names or titles indicative of the vocation followed, and as to the use of prefixes where they do not rightly belong.

Illustrative of the abbreviation of names of all sorts now in vogue, the following may prove amusing. Travelling in the United States, and even in Canada, how oddly it must sound to strangers from another country to be told blandly, "You go by the G. T. R.," or it may be the "C. P. R." No wonder the Englishman said, in reply to some such expression, "Is that a bus or a tram?" We all remember Sara Jeanette Duncan's funny allusions to this in one of her stories a few seasons ago. But a "realizing sense" of the brevity of wit was experienced by a few benighted Canadians at Old Point Comfort last year. Comfortably seated at dinner, some one remarked, "Your party go by the C. & O.; you leave in fifteen minutes." Breathless we arrived at

the depot, and were told by an affable porter, "Oh, no; you go by the Nip (N. Y. P.) and N.; it don't connect with the boat till morning."

But to return and take the short route home, how does it feel when a man has been equipped with a diploma, a good brass sign on the front of his residence, a surgery, a gig and a horse, and sundry other outward and visible signs of his calling, and that he really is a respectable and ethical physician, and like the prophet or apostle (which was it?), wanders up and down the earth on his mission of healing intent, to be stopped in his gentle career at some busy corner, and hailed thus: "Hello, *Doc.*, how is trade?" Immediately "the seventh son of a seventh son, also a Sunday child," must experience that tired feeling which rest cannot assuage. Vanity, some may call it; no, indeed, self-respect is the better name, and respect for those who so hardly won the good old name of Doctor, and disgust for those who cannot revere anything under the sun. The good old name has been made public property, so to speak, since it has become the prey of all classes of persons of indefinite or unclassed schools of so-called medicine. It is also the fashion of the moment to apply it to dentists, and even vets., and, so familiar has it become, that all classes of charlatans usurp it, and consequently the great public find a third of the community calling themselves Doctor, and so the term is not properly honored, and too much familiarity has bred the contempt among the ignorant of an abbreviation, sometimes, to *Doc.*

"What we have we'll hold" should have been the stand taken by the ethical physicians some years ago, even in so comparatively small a matter as the holding exclusively the prefix of Doctor (when addressed). Now, some of our most highly respected practitioners in Canada have preferred to lay the term aside reverently, rather than subject it to any indignity, and ere long many more will follow their example.

A country custom, that often causes great amusement, is the breach of good form caused by the use of prefixes where they do not belong. A good story was told the other evening of a farmer's wife near Grimsby, Ont., who was recently entertaining some acquaintances from town, and wanting to impress her friends, and do fitting honor to her guests, she introduced them thus: "Let me make you acquainted with Mrs. the Reverend Sermon; this is

Mrs. Dr. Pills; and this, ladies, is Mrs. Lawyer Blackstone, of Toronto." Truly, some achieve greatness, and some have greatness thrust upon them.

Allied to this subject we notice, in an interesting "London Letter," written to the *Medical News,* the following remarks upon abbreviation in writing and conversation in use in England so much:

"There is a singular tendency in English 'medicalese' to resort to abbreviations and initials of various sorts, most of which are comparatively unknown among us, in spite of our alleged tendency to clip and shorten everything. For instance, a general practitioner is always referred to as a 'G. P.'; a house-physician or house-surgeon as an 'H. P.' or 'H. S.'; a case record of tabes dorsalis is headed with the mystic letters, 'T. D.'; one of general paralysis of the insane, with 'G. P. I.,' and the same contractions are habitually used in conversation. A unique combination of initials as a diagnosis-endorsement is reported to be in vogue at University College Hospital. Whenever a case which is clearly serious enough for admission proves too complicated or difficult to warrant a precise diagnosis upon the hurried examination of the receiving-room, it is promptly initialed 'G. O. K.' and sent up to its appropriate ward for adequate investigation at leisure. The mystic characters signify simply 'God only knows.'"

W. A. Y.

SOME PEOPLE WANT BADLY A LITTLE HORSE SENSE.

A couple of weeks ago a deputation waited upon Premier Ross to induce him to abolish compulsory vaccination. We regret to find that quite a number of the deputation were physicians, men of whom we could at least expect a larger display of ordinary every-day common sense. It is stated that, in presenting their case, wondrous and varied objections were raised as to the *awful* effects of vaccination, one stating that it was "the means of conveying tuberculosis, cancer, and the most loathsome skin diseases," another stating that it was "putting poison into the system to perpetuate a base superstition," and a third actually going the length of saying that vaccination was "the most colossal medical delusion in the history of the world," and similar humbug. One

deputant had brains (nit) enough to tell, in cold blood, the Hon. Mr. Ross that, because no other surgical operation had been made compulsory by law, vaccination should not, but be left to the judgment of each parent. Because there are occasional, and only occasional, cases of severe constitutional symptoms accompanying the formation of the vaccine vesicle, why should vaccination be so vigorously condemned by even two or three out of the many? There is no more question that vaccination has been the means of saving hundreds of thousands of valuable lives than there is of the advisability of the removal of a malignant growth before glandular involvement has occurred. Will our friends, the doubting Thomases, permit us to call their attention to the following editorial, which recently appeared in the *British Medical Journal,* entitled "The Vaccination of a Nation":

"Dr. George G. Goffe gave, not long ago, in the *Medical News,* an interesting account of the vaccination of the inhabitants of Porto Rico. When the Americans took over the government of the Island of Porto Rico, they found smallpox epidemic. At the end of January, 1899, the Governor-General ordered a general vaccination of the inhabitants. As for some reason it was not thought advisable to buy the vaccine from the United States, it became necessary to start a "vaccine farm." At first all animals were tested with tuberculin; but no reactions were obtained, so it was concluded that tuberculosis does not occur among the unconfined cattle of the island. The animals were not stabled either before or after inoculation. The lymph was collected upon points, dried, wrapped in bundles of 100 and dated, and sent by mail daily to the vaccine stations. Letters were sent to all medical practitioners and to all the *alcaldes,* asking their co-operation. The *alcaldes* at once took action, which resulted in the people appearing on the date ordered, and submitting themselves to vaccination. The instructions to public vaccinators required them (1) to wear clean white clothing, and to disinfect their hands before operation; (2) to scrub each subject's arm with soap and water and then with bichloride solution; (3) to use as scarifiers either needles kept in 1 to 40 carbolic solution (one vaccination only with each needle) or a lancet dipped in 1 to 20 carbolic solution and passed through an alcohol flame before vaccination; (4) to make two scarifications on each subject, the vaccine point to be

wet with sterile water, rubbed thoroughly over the scarifications and allowed to dry thoroughly; (5) to visit every vaccinated person a second time, and either give a certificate or revaccinate; and (6) to report daily upon the work of the day and the needs of the morrow. Every post-surgeon was made an inspector of vaccination, and required to enforce the instructions to vaccinators, and to report daily to his director. The director, in his turn, reported weekly to the chief surgeon. In three working months 800,000 people were vaccinated, at a cost of $32,000, and Dr. Goffe says that on October 20th not a single case of smallpox was known to either the civil or military authorities in any part of the island. The work was accomplished without a disturbance of any sort. It may strike some of our readers that our Local Government Board might do worse than import a sufficient supply of *alcaldes* from Porto Rico, and set them to teach local and other authorities in this country *how to get vaccination enforced"* (italics ours).

W. A. Y.

DR. McKAY'S BILL.

We learn that Dr. McKay's bill, the salient feature of which was the abolition of the Medical Teaching Faculty of Toronto University, has been withdrawn. For so slim a sheet (it was printed on one page), it evoked quite a literary breeze, several members of our profession having written letters in the daily papers espousing one side or the other of the contest between Trinity Medical Faculty and Toronto University Medical Faculty. The relation of our Provincial University to the teaching of medicine should be of an elevating character, and the medical curriculum followed in the University should be of approved merit. It does not follow, however, that every physician should obtain a university degree in medicine, and in Ontario it is unnecessary that he should do so. As long as the pupils of the various medical schools receive a training, which enables them to pass the examinations of the College of Physicians and Surgeons of Ontario, they have done all that is necessary to obtain the right to practise in this province. Should they wish to get, or should they be able to assimilate a more extensive scientific training, ample opportunities are at their disposal.

After all has been said in the matter of medical teaching, the real training of a physician begins when he has to discover, by his own individual experience, the truth of what he has been taught. No teacher can make a student know a subject: at best he can but suggest thoughts. Later on, the mind of the student, in the light of facts independently observed, will evolve the kernel of truth contained in the professor's dictum. The mere reading of other men's books will not make a sound thinker, and an accurate valuation of given data is of more importance in the diagnosis and treatment of disease than a familiar acquaintance with many subjects of a medical curriculum. The bacteriologist can resolve many a doubt, but he can never supersede the clinician. A physician, well endowed mentally, after one year's practice, sees questions in a light, dissimilar to that which appeared to illuminate them when he marched off with the coveted diploma. He would do well to call a truce to his doubts and hie himself to a good medical centre, where he can scrutinize the work of other men, not necessarily adopting the professor's dictum in a slavish way, but measuring it in the light of what he knows, and prepared, when he resumes practice, to "act in the living present," so that he may learn whether the teaching be true or false. J. J. C.

EDITORIAL NOTES.

Prohibition of Spitting in the Streets of Paris.—The City Council of the French Capital has passed an ordinance against spitting in public, punishing infraction of the same with fine or imprisonment. Those who are obliged to spit, when out of doors in Paris, will henceforth have to do so in a public lavatory. Notices will be set up in the streets, giving the necessary information, and the ordinance is to come into effect with the least possible delay.

Open Air Treatment of Tuberculosis.—Opinions in favor of the open air treatment of tuberculosis are scattered broadcast throughout the medical press. Probably one of the best recommendations, made in favor of the treatment of tubercular patients in sanatoria, is, that the objective value of residence in such institutions is very great. The patients learn to realize that open air,

sunlight, and a carefully regulated diet are the chief curative agents, attention to hygiene being a most important adjuvant. On leaving the sanatoria, they help to spread the new faith, and thus become powerful agents in the prevention of tuberculosis.

The Ontario Medical Association.—The twentieth annual meeting of the Ontario Medical Association opens on the 6th of next month in the Normal School buildings, Toronto, and lasts for two days. The titles of all papers should be forwarded at once to the General Secretary, Dr. Harold C. Parsons, 97 Bloor Street West, Toronto. Papers, or extracts of the same, must be in the hands of the Committee on Papers by the 15th inst. Fifteen minutes are allowed for the reading of a paper. Dr. Albert A. Macdonald is Chairman of the Committee on Papers. We hope that the twentieth annual meeting of the Ontario Medical Association will be the best on record.

Dr. Elliott, of Gravenhurst.—The former Superintendent of the Gravenhurst Sanatorium has gone to seek new laurels in the field of malaria. We notice in the *British Medical Journal* that the second malarial expedition promoted by the Liverpool School of Tropical Medicine left Liverpool on March 21st, on the Steamship *Olenda,* for Old Calabar and South Nigeria. The expedition consists of Dr. H. E. Annett, Demonstrator in the School, Dr. Elliott, and Dr. J. E. Dutton, who have been studying in the School. It is intended that the expedition will give special attention to finding the best solid substance or powder for preventing the breeding of anopheles in surface puddles.

The Sanatoria Act.—An Act has been passed by the Ontario Legislature to provide Provincial aid for the establishment of sanatoria for consumptives. It enables the councils of counties, cities or towns separated from counties to establish sanatoria for the treatment of persons suffering from consumption; provides for the management of the sanatoria by a board of not more than five trustees; also enables municipalities to combine for the purpose of establishing sanatoria, and authorizes the Lieutenant-Governor in Council to make a grant not to exceed one-fifth of the sum expended on the site, and not more than $4,000 altogether, for the purpose; the site and plans to be approved of by the Provincial Board of Health.

Notification of Tuberculosis.—We notice with pleasure that the editor of *Le Progres Medical,* of Paris, declares in favor of making tuberculosis a notifiable disease. We hope that other medical authorities who are of the same opinion will not hesitate to express it. If the spread of phthisis is to be prevented, disinfection of tubercular sputa, etc., must be practised; but the latter procedure necessarily implies knowledge of the houses where the germs of tuberculosis abound. Not only is disinfection of houses occupied by tubercular patients neglected; but in many a city on this continent, even though a health department is in operation, no disinfection of houses where deaths from consumption have taken place is either asked for or done. Disinfection in such cases should be obligatory.

The Treatment of Obesity.—The treatment of obesity by a modified form of insufficient nourishment is recommended by Dr. Debove, of Paris, particularly when the treatment is carried out in a hospital, and isolation is practised. He presented to the Paris Academy of Medicine last March a patient who, a year before, weighed 322 lbs., and had suffered from lithiasis and albuminuria, but who has been cured of these affections, while his weight has been reduced to 204 lbs., the patient thus losing more than a third of his weight. This very satisfactory result was obtained without medicines, and also without the exercise cure, which would have been impracticable, as at first the patient could scarcely move. For total nourishment he took, at first, two and a half litres of milk a day; later on but two litres, and even one litre of milk a day. During the four months prior to his appearance before the Society, the diet of this patient consisted of green vegetables, herbaceous salads, and as much raw fruit as he wished for.

The New Birth Regulation.—The new regulations regarding the registration of births in Ontario went into effect in Toronto on the 10th of last month. Cards have been sent out from the City Clerk's department to all the physicians and midwives in the city, accompanied by a circular instructing them to fill in the cards with notice of each birth they attend. These cards will be taken through the mails free and will therefore reduce the duty imposed

upon the members of the profession to a trifle. When a card, giving notice of a birth, is received at the City Clerk's department, an enquiry will be sent to the parents asking all particulars, and a printed card will be sent which can be quickly filled in. These cards will also be carried free, so there is no possible excuse for either doctors, nurses or parents neglecting to notify the City Clerk of a birth. To enforce these regulations, a penalty of $10 fine will be exacted for each omission to comply with the regulation on the part of either doctors or parents. Those who have failed to register births which have taken place will be given until May 1st to do so, and after that date the fine of $10 will be imposed.

The Causes of Rheumatism.—At a meeting of the Paris Society of Biology, Dr. Charrin offered a very satisfactory explanation of the varied causes which co-operate in producing rheumatism. Staphylococcus albus, described by Bouchard as being met with during the course of rheumatism, is the microbe most commonly discovered. Dr. Charrin had found it twice in a patient, who had a rheumatic affection of the smaller joints, associated with a quinsy, the pus from which contained the staphylococcus. There is, however, no microbe constantly found in rheumatism; so that, from the microbic standpoint, perhaps, there would seem to be several different kinds of rheumatism, just as there are varied forms of pleurisy, and different kinds of tonsillitis, depending on four or five different germs, viz.: Staphylococcus albus, S. aureus, bacterium coli, streptococcus. These same germs are found in rheumatic affections, and they grow rapidly as soon as an acid, particularly lactic acid, is injected into the animals on which experiments are made. This constitutional blemish, acidity, commonly affects rheumatic subjects, and rheumatism has long been classed among the acid dyscrasies. Should heredity exert an influence; should cold, especially damp cold, which closes the glands of the skin that excrete uric acid, act on the body, or should the trophic power of the nervous system be altered, and the alkaline condition of the body fluids be diminished, the microbes immediately begin to grow, develop, and give birth to rheumatism, the origin of which is thus explained by a chemical, a nervous, and an infectious theory.

PERSONALS.

Dr. A. J. Johnson has convalesced from his recent indisposition.

Dr. Chas. Sheard has been away recently in New York, but has returned.

We are pleased that Dr. Chas. O'Reilly's son has recovered from his recent severe illness.

We congratulate Dr. T. H. Stark upon recovery from very severe illness of his son and heir.

Dr. C. E. Stacey has purchased No. 161 College Street, next door to Dr. W. J. Wilson, and will remove there shortly.

We tender our sympathies to Dr. H. C. Burritt, of Toronto, in the death of his son last month in Kimberley, South Africa.

Dr. W. A. Young will attend the meeting of the American Medical Association at Atlantic City, New Jersey, next month.

Dr. J. A. Creasor has removed from the corner of Spadina Avenue and Oxford Street to Brunswick Avenue, near Ulster Street.

Congratulations, J. M.! You came out all right. The case against Dr. J. M. Cotton, of Simcoe Street, which was called in the Police Court recently, for the alleged non-report of a case of diphtheria to the Medical Health Department, was dismissed.

MARRIAGES.

Meyers—Burson.—In St. Catharines, March 24th, at the residence of the bride's mother, by the Rev. John James, D.D., assisted by the Rev. Dr. Smith, Donald Campbell Meyers, M.D., M.R.C.S. Eng., of Toronto, to Edith Alexandra, only daughter of the late Rev. George Burson.

Richardson—Butland.—On the 3rd of March, by the Rev. Geo. Richardson, father of the groom, at the home of Mrs. Beckett, Seaton Street, Toronto, T. B. Richardson, M.D., F.R.C.S.E., to Miss Anna C. Butland, only daughter of the late Richard B. Butland, of Toronto.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

"THE WORLD'S GREAT NEED OF CHRISTIAN SCIENCE."*

Editor Canadian Journal of Medicine and Surgery.

Dear Sir,—In order to make your readers acquainted with the profound wisdom and humanity contained in Christian Science literature, I would ask for space for consideration of the lecture, headed "The World's Great Need of Christian Science." That it fairly represents Christian Science principles and teaching is evident, for it was delivered by a Christian Science doctor, commissioned as a lecturer by the Board in Boston, and is reported in the *Christian Science Journal* for September, 1899.

"The world's great need" is stated as follows: "Looking out over the earth's vast scene, *where the farce of human life continues to be played, and finding nothing but a farce, nothing but unreality* . . . does it not stand to reason that there is something wanting, something that the world has need of?"

"Such a something is the science of being," *i.e.*, Christian Science. If these words mean anything more than a trifling with universal human misery, physical, moral and mental, they mean that human life and all connected with it is a farce, because they are unrealities. How Christian Science can benefit humanity by making them *real,* and can make them real by denying the existence of sin, sickness, error and death, and even of matter itself, would puzzle a Philadelphia lawyer.

That sin, sickness, death, error and evil *cannot* be realities, is proved by Christian Science logic: "The light of Being, of common sense, reason and revelation" declare that such things "could never be."

The logic is exceedingly simple—

"1. The unfailing and true *must* be.

"2. The failing and the false are their 'opposites.' Therefore

"3. The failing and the false *cannot* be."

Stated in other words: "Two things diametrically opposed to each other cannot both be true, and nothing that is true of one can be true of the other: hence, *whatever is, its opposite is not.*"

How admirable! How conclusive! Because peace prevails

*Lecture by F. J. Fluno, M.D., C.S.D.

in Europe, therefore war cannot prevail in the Transvaal. Because one man is truthful, another man cannot be a liar.

The lecturer favors us with another argument, in order to prove that what he asserts is a "*self*-evident truth."

1. Such things as the mutable and false cannot be, because "there could not *be* the mutable and false unless there were first standard: there could not be the mutable and false unless there were first the immutable and true.

"2. Out of the true the false could never come; out of the unfailing the failing could never proceed. Therefore

"3. There *cannot* be the mutable and false."

What wonderful logic! What does the word "standard" mean? Is it not something by which we judge whether actions or motives are good *or* bad, right *or* wrong, true *or* untrue? Is not that which does not come up to the "standard" of truth, falsehood? to the "standard" of right, wrong? As to the contention that "out of the true the false could never come," etc., I am not aware that any sane man ever thought it could. Nor am I aware that any man ever denied that vice existed, and could not exist because there was a "standard" of morality, until these "thinkers," the Christian Scientists, found out that vice could not exist because it was the "opposite" of morality.

Having proved to a demonstration that, "in the great scientific fact of the being and existence of his hearers there is not, nor could be, a mistake, that there could not be and there is not an error, a flaw, an incorrectness, a something wrong," on the next page he deplores "the large degree of inharmony, unhappiness and dearth of brotherly love, and a great want of peace on earth," among "the throngs that people the earth," but attributes this to what he terms "mortal sense." "Mortal sense, it is true, has its degrees of evil, and its degrees of wrong, and what it calls right: but even its highest degrees of good are still not good, because *it has evil in the premise,* and its very highest degrees of right are still wrong, because mortality is wrong *to begin with.*"

To remedy this deplorable condition of man Christian Science has come, "admitting of no evil, no wrong, admitting only a perfect God, and a perfect creation, perfect God *and perfect man.*" Let us now inquire how Christian Science meets the "farce of human life."

1. The farce of famine and destitution. "Looking out over the world's vast extent," we see millions perishing for lack of food. Christian Science comes to their relief by assuring them that "food does not affect the real existence of man" ("Science and Health," 387). What is needed is more goodness, then you will not require food (S. and H. 387).

They are perishing with cold. "Heat and cold are the pro-

ducts of mortal mind; mortal mind produces animal heat" (373), therefore all they need is more "mortal mind."

2. The farce of blindness and deafness. "No organic construction can give hearing and sight, or make it the medium of mind" (485). "Sensible objects are to be apprehended mentally, not physically" (262).

"The testimony of the senses is false" (14). If so, the blind or dumb are better without sight or hearing.

3. The farce of filth and dirt. "Ignorance of hygiene is a blessing" (381). "Hygiene is not conducive to health" (58).

4. The farce of ignorance. "We welcome the increase of knowledge, *even if* it lead us into error, *because* sinful human invention must have its day, and we want that day to be over" (26). "Education is a cause of disease" (69).

5. The farce of war. Christian Science teaches that wars are salutary. "They stir up evil" (which he says does not and cannot exist) "to its utmost, and bring it to the surface, and reduce it to *its proper state of nothingness*" (532).

6. The farce of leprosy. "All diseases are illusions." Get "your corporeal senses" (which he says are liars) "to respond to the truth, to realize the presence of health," and behold leprosy disappears.

7. The farce of sin. "Sin is an illusion" (528). "Sin is unreal" (444).

8. The farce of drunkenness. The lecturer's utterances on the subject of intemperance are characteristic of Christian Science mental obliquity. He first tells us that "the whole world is in the seething maelstrom of intemperance," and immediately afterwards declares that "there is only one mind, that is, God, and that mind admits no evil doer, and no evil; no inebriety and no inebriate; no intoxication, and nothing that can intoxicate."

According to Christian Science teaching there is nothing harmful, or poisonous, or intoxicating. Everything derives its supposed baneful power from the *belief* of mortal mind. All efforts to rescue mortals from the "maelstrom of intemperance" must fail unless they learn this. "Who more than the temperance advocate himself needs to be healed of intemperance? For who more than he is believing that matter can intoxicate?"

The teaching of Christian Science on this subject may be summarized as follows:

The whole world is in a seething maelstrom of intemperance. There is not and cannot be intoxicants nor intoxicated. The terrible results which we daily see are due to the universal belief of "mortal mind" that whiskey, etc., will intoxicate. Lastly, to cap the climax, "Mortal mind itself is not real." "The phrase, mortal mind, implies something untrue, and therefore unreal" (8).

9. The lecturer next proceeds to settle the "financial question." "The world needs Christian Science to settle it. It can never be solved so long as gold or any other commodity is made the basis of value. Where shall value be found but in the 'Pearl of great price'? When men learn Christian Science, 'In God we trust,' then the financial question will be solved."

This is simply pious twaddle. If the learned lecturer should offer to pay for a suit of clothes with the "Pearl of great price," he would be informed that business was not carried on with that commodity.

Mrs. Eddy's mansion and eighty acres at Concord, valued at $800,000, was not purchased with such heavenly currency, nor was it the "basis of value" in payment for her "little book," which she declares is the "little book brought down from heaven by the Angel of the Apocalypse," and which she impiously declares "is the Holy Ghost" (579).

Mrs. Eddy's "financial transactions" with reference to this little book have little to do with "the Pearl of Great Price." She professes to have written the book "as a scribe under orders, transcribing what God indited," and forthwith *copyrighted* it, and proclaimed herself to be the *author*. This "little book," "the Holy Ghost," she sells with a profit of $2.50—good American money—and if the statement made by her chief lecturer, Mr. Carl Norton, is correct, she has realized in hard cash, during twenty-four years, $500,000, or an income of over $20,000 a year.

The copyright of this "little book" is so carefully guarded that when an apparently impecunious "reader" ventured to copy the lesson for the day to read to the church, she blasphemously declared that to do so was "seeking again to cast lots for His vesture" ("Miscellaneous Writings," p. 302).

So far from "trusting in God," Mrs. Eddy withheld the revelation she received from God for six years, until she satisfied herself that it could be "profitably published" (Preface S. and H.).

Influenced by the teaching of the Holy Scriptures, thousands of devoted men and women are enduring privation, sacrificing ease, health and comforts, surrounded by ignorance, squalor and brutality, in order to supply some of the world's great need.

Princely hospitals, tens of thousands of dispensaries and infirmaries, supplied with lavish endowments, ministered to gratuitously by tens of thousands of attendants, orphan asylums, sailors' homes, homes for the aged and infirm, refuges for the fallen, etc., stud the earth for the relief of sinful, suffering humanity.

What has Mrs. Eddy done to relieve sin and suffering but publish a book which denies the existence of sin and suffering, which is practically beyond the reach of the suffering multitudes, which is copyrighted so as to prevent others from issuing cheaper

editions and so diminish her enormous profits? She ushers in her book with the triumphant declaration: "To-day is big with blessings. . . . Now, across a night of error (*i.e.,* the 1,850 years since the "pale star appeared to the prophet shepherds"), "shines the guiding orb of truth. The wise men are led to behold and follow the day-star of Christian Science, as it opens the way to eternal harmony!"

Our Saviour said, "I am the light of the world." Mrs. Eddy says the world was enveloped in utter darkness for eighteen and a half centuries, when the "guiding orb of truth" was disclosed to her, and it might have forever remained unseen by the world if she had not satisfied herself that its disclosure could be made a source of profit to her.

Mrs. Eddy, as I have already pointed out, declares that her "little book" is "the Holy Ghost." If Simon, who "offered money" for the power to confer the Holy Ghost, was rebuked by Peter in the words: "Thy money perish with thee, because thou hast thought that *the gift of God* may be purchased with money," what must be the condemnation of one who, as she says, having received this gift of God, makes it an article of merchandise, and rolls in wealth with the proceeds!

The lecturer institutes a comparison between civilization and barbarism, much to the disadvantage of the former, and tells us that "Christian Science comes to-day to help the world out of the tangle of so-called civilization, moral culture and refinement." This needs no comment, it speaks for itself.

He also makes the audacious statement that, "under a regime of four thousand years, sickness and mortality have increased." Besides the refutation this statement receives from the statistics of actuaries, I would merely adduce the indisputable fact that, whereas the number of deaths in Europe during the last half of the last century, from smallpox alone, amounted to six hundred thousand annually, now the dire disease is almost stamped out, thanks to the medical profession, which Mrs. Eddy traduces in almost every page of her "little book," for having, by means of vaccination, isolation, sanitation, etc., shorn smallpox, cholera, plague and other diseases of the greater part of their terror.

The lecturer summarises his argument as follows:

1. The world *is* hopelessly and helplessly sick.

2. This universal sickness is, however, a mere belief in sickness.

3. Christian Science teaches the unreality of sickness.

4. Nothing but Christian Science can teach conclusively what does, and what does not belong to being.

5. "*Therefore,* what Christian Science teaches *is conclusive; hence,* whoever contradicts *or presumes to dispute* Christian Sci-

ence will find that he is fighting against Eternal Truth, the Almighty God."

This stage thunder does not terrify me. I not only "venture to dispute" every one of his propositions, except the first, but I unhesitatingly pronounce them to be utter absurdities.

The lecturer further claims that he is only "voicing what science reveals to him."

There have been other women besides Mrs. Eddy who have professed that they have had revelations from God, with as much authority, and have succeeded in deluding multitudes.

Let us compare Johanna Southcott's career with that of Mrs. Eddy:

About the latter part of the eighteenth century Johanna Southcott announced that she had received a revelation from God.	In the latter part of the nineteenth century Mrs. Eddy pronounced that she had received a revelation from God.
J. S. said she was the woman mentioned in the twelfth chapter of Revelation (*q.v.*).	Mrs. E. said she was the woman mentioned in the twelfth chapter of Revelation, and, moreover, that her "little book" was the little book brought down from heaven by the angel mentioned in the tenth chapter of Revelation (*q.v.*).
J. S. proclaimed that she was about to give birth to "Shiloh," and her followers subscribed $1,000 for a cradle, for the reception of the heavenly Babe.	Mrs. E. produced her book, which she declares (p. 3) is prophetically referred to in the words: "Unto us a child is born," etc.
J. S. sold seals which were to ensure eternal salvation to the purchasers, and thereby realized considerable money.	Mrs. E. sells a book which she declares "blots out all our iniquities, and heals all our diseases," thereby realizing a fortune.
J. S. had followers, computed to reach the number of 100,000, who for years after her death, from dropsy, confidently expected to witness her resurrection.	Mrs. E.'s followers are computed to number hundreds of thousands, many of whom confidently believe she will never die.
J. S. published a lot of unintelligible nonsense.	Mrs. E. has published a lot of unmitigated nonsense.

In corroboration of the last statement concerning Mrs. Eddy's publications, let me give a few extracts:

On page 81 we read: "If you take away this erring (*i.e,* this mortal) mind, the mortal body loses all appearance of life or action, and the human mind calls it dead; but *this human mind* still has a body, through which it acts, and which appears to itself to live—a body like the one it had before death, and *which we still see.*"

The absurdity of this will appear from Mrs. Eddy's statements concerning mortal or erring mind in her book:

1. "Mortal mind and its body *are one*" (70).

2. "Mortal mind" implies something untrue and unreal (8).

3. This "*mortal* mind" persists after death—and *makes another* body, for "mortal mind makes its own body" (118).

4. If after death mortal mind makes another mortal "body like the one it had before death, and which we still see," why do we not see it also?

5. How long will this process of separation from the old dead body, and the formation of another precisely like it, be repeated?

Take another example, p. 256: "In dreams *we fly*" (*we* means "mortal mind," for p. 145, "The mortal mind is the dreamer") "to Europe, and *meet*" (by appointment, I suppose) "a far-off friend. The looker-on sees" (but "the evidence of the senses is false," 14) "the body in bed, *but* the *supposed inhabitant of that body carries it* through the air and over the ocean. This shows the possibilities of thought." She goes on to say that when opium- and hashish-eaters dream, "*their bodies stay in one place.*"

Considering that time, in Europe, is five or more hours in advance of time in Concord, one would imagine that if Mrs. Eddy so dreamt, the "meeting" with the far-off friend would be rather embarrassing and indelicate, for if the dream occurred soon after she went to bed, her far-off friend would, in all probability, be also peacefully slumbering in his bed; and if she dreamt towards morning, the friend might be in some public place, and the apparition of a body clad in a nightgown would be rather startling, to say the least.

That anyone should accept as "absolute truth" these specimens of Mrs. Eddy's Science, can only be explained by Mrs. Eddy herself. She tells us on page 484:

"The *less mind* there is manifested in matter the better. When the unthinking lobster loses his claw, it grows again. If the science of life were understood . . . then the human limb would be replaced as readily as the lobster's claw—not with an artificial limb, but with the genuine one."

That is to say, when the Christian Scientist thoroughly understands the "science of life" he will be as *unthinking* as a lobster, and will grow a new limb; or, if he becomes as unthinking as a polyp, you might cut him into little bits, and every bit would grow into a perfect Christian Scientist.

Christian Scientists seem to be fast arriving at this highly desirable condition. JAMES H. RICHARDSON.

DR. C. F. MOORE, of Toronto, will be married on the 3rd inst. at Chicago. Fred! congratulations.

The Physician's Library.

BOOK REVIEWS.

Hemmeter: Diseases of the Stomach, their Special Pathology, Diagnosis and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By JOHN C. HEMMETER, M.E., Professor in the Medical Department of the University of Maryland, Baltimore. With many original illustrations, a number of which are in colors. Second edition, enlarged and revised. Octavo, 898 pages. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price, $6.00 net. Cloth.

It must be a matter for congratulation that a little over two years after the issue of the first edition of any book, the author should be called upon to rewrite his work and give his confreres in the profession an opportunity of still further learning from his store of knowledge. We took the opportunity of complimenting Dr. Hemmeter on the first edition of his work on Diseases of the Stomach, and, after looking through his rewritten and revised edition so soon after, we can only add to the pæans of praise already meted out to him but two years ago. We find that the author has rewritten almost the entire work, and has added chapters on electro-diaphany, obstruction of the orifices, hypertrophic stenosis of the pylorus, and on the use and abuse of rest and exercise in the treatment of digestive diseases. The sections on Motor Insufficiency, Enteroptosis and Gastroptosis have been considerably changed. We find also the addition of a number of very fine plates, the majority of which are executed in a most masterly manner. One of the most instructive chapters in the entire book is that dealing with drinks and liquid foods, a subject about which general practitioners are, as a rule, too ignorant. The author gives here the method of preparing all the varied delicacies used in and around the sick-room, such as the different broths, jellies, puddings, gruels, bouillons, soups, etc., etc. It will more than repay practitioners to carefully study this section, as it is full of valuable information, enabling the attendant physician to be in a position frequently to give hints to the nurse, often when she most requires them. Under the heading of Digestive Ferments, the author states that the diet should not be *levelled down* to the digestive capabilities of the stomach, but that digestion should be *levelled up* until it can deal efficiently with the amount of food required for the nitrogen equilibrium. The author is of the opinion that the indiscriminate dosing with digestive ferments does more harm than good, the stomach being an organ which very rapidly adapts itself to cease performing the work that is done for it artificially. We read with great attention the chapter on Gastroscopy. Apart from complications that are due to tumors, exudations, enlargement of the liver, etc., apart also from congenital anomalies, two facts are to be considered in the light of an impediment to a successful probing by means of introducing a rigid tube into the stomach—in the first place the bend to the left, or spiral twist, which the esophagus shows so frequently in its subphrenic part; and secondly, the occurrence of spasm at the lower physiological contraction of the organ. With continued practice it becomes apparent that the anatomical obstruction, caused by the change in the direction of the esophagus, may usually be overcome if the instrument is introduced from the right angle of the mouth, preferably while the head is turned slightly to the right, laterally.

A Manual of Pathology. By Joseph Coats, M.D., late Professor of Pathology in the University of Glasgow. Fourth edition. Revised throughout by Lewis R. Sutherland, M.B., Professor of Pathology in the University of St. Andrew's. With 490 illustrations. Longmans, Green & Co., 39 Paternoster Row, London ; New York and Bombay. 1900.

Since the first edition of this practical work appeared in 1883, there has been a constant demand for it by students and practitioners ; and this posthumous edition which has had the direct counsel and support of the late author up to the very close of his life, and so thoroughly and carefully revised by Lewis R. Sutherland, M.B., Professor of Pathology in the University of St. Andrew's, has added to the excellence already attained in the former editions.

What strikes us at once on looking over the different chapters is the clearness and readableness of the work, which is so essential to the subject, and at the same time preserving its thorough and scientific principles. The late author appears to have limited his doctrines and statements to solid personal and other original research, and to have steered away from mere speculative considerations which we find so often filling up the pages of like manuals. Then, also, the late author was associated as teacher with large practical and systematic classes of undergraduates and post-graduates, which would have the tendency to keep him alive to all the details of modern pathology. The late author has adopted the usual arrangement of diseases, viz., general and special. In Part I. we find a section on Teratology, which will be found interesting and very useful to those who have not a special work on this subject. It is a noticeable fact that although teratology should come under the head of pathology, yet in most works on pathology the subject of malformations and monstrosities is conspicuous by its absence.

Under the heading, Intoxications, we very rightly find such diseases as uremia, gout, diabetes, lipemia, melanemia, myxedema, cretinism, acromegaly, Addison's disease, which diseases were formerly regarded as widely separate but are now known to be intimately related under one common cause, viz., certain changes in secretion and excretion, and all characterized by changes in the blood and other fluids of the body, either by the presence of toxic substances or by alterations in the chemical constitution of the plasma.

There is a chapter on pyrexia with its accompanying phenomena, as cloudy swelling, influences on pulse, blood pressure, nervous disturbances and *post-mortem* appearances, all of which will prove most useful to students of pathology. All the 490 illustrations are founded largely on personal and other original research, thus adding much to their value.

We can heartily endorse the statement made by W. T. Gairdner, of Glasgow University, in his beautiful tribute to the late author, that this volume is destined to fulfil its mission, viz., to become at once a manual of instruction for the student of medicine, and a work of reference for the practitioner who may be desirous of keeping his pathological knowledge up to date, and will be a worthy memorial of one who was respected and beloved alike by teachers and students.

W. H. P.

The International Text-Book of Surgery. By American and British authors. Edited by J. Collins Warren, M.D., LL.D., Professor of Surgery in Harvard Medical School ; Surgeon to the Massachusetts General Hospital ; and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital ; Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School ; Member of the Court of Examiners of the Royal College of Surgeons, England. Volume II., Regional Surgery, with 471 illustrations in the text, and 8 full-page plates in colors. Philadelphia : W. B. Saunders, 925 Walnut Street. 1900. Two volumes. Price, $5.00 per volume in cloth, $6.00 in sheep and half morocco. Canadian Agents : J. A. Carveth & Co., Toronto.

Among the contributors to Volume II. of this very fine work appear the names of John B. Deaver, Wm. B. Coley, Christian Fenger, E. T. Collins,

Jas. Cantlie, H. H. Curtis, F. Henrotin, Chas. McBurney, J. Collins Warren, R. W. Parker, W. L. Rodman, and last, but certainly not least, Geo. A. Peters, of Toronto. The chapter we naturally turn to first is that by our own fellow townsman and confrere, Dr. Peters, Chapter XVI. on Diseases of the Rectum and Anus. This section consists of about twenty-five pages, and includes a number of half-tone plates and drawings which materially elucidate the text. The author, after shortly referring to the anatomy of the rectum, discusses the congenital malformations most commonly found, injuries of the rectum and anus, acute and chronic ischiorectal abscess, fistula in ano with its treatment, irritable ulcer and fissure of the anus with the treatment, hemorrhoids external and internal, prolapsus ani, procidentia recti, polypus, simple syphilitic and tuberculous ulceration, stricture of the rectum, carcinoma of the anus and rectum, and lastly, excision of the rectum. The chapter by Dr. Geo. A. Peters, whom we may say is eminently fit to be a contributor to Volume II. of the "International Text-Book of Surgery," is most readable, our only regret being that the doctor was confined to so limited an amount of space. Apart from diseases of the rectum, the various authors in this volume contribute articles dealing with the surgery of the various organs and cavities of the human frame. The Surgery of the Thorax is contributed by Dr. John Murray, of Middlesex Hospital, London; the Surgery of the Esophagus, by Dr. J. B. Deaver, of Philadelphia; the Surgery of the Neck, by Mr. Pearce Gould, of London; the Surgery of the Breast and the Technic of Abdominal Surgery, by Dr. J. Collins Warren, of Boston; Hernia, by Drs. W. T. Bull and W. B. Coley, of New York; two chapters on Gynecology, by Dr. F. Henrotin, of Chicago; Military Surgery, by Dr. W. H. Forwood; Naval Surgery, Dr. C. A. Siegfried, of the U.S. Navy, and Tropical Surgery from the pen of Dr. Jas. Cantlie, of London. Volume II. of the "International Text-Book of Surgery" is of greater interest to the surgeon even than Volume I. on account of its dealing with Regional Surgery. Typographically it is a model, well illustrated, a credit to Mr. Saunders and replete with interest. W. A. Y.

The Irrigation Treatment of Gonorrhea, Its Social Complications and Sequelæ. By Ferd. C. Valentine, M.D., Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary; Genito-Urinary Consultant to the United Hebrew Charities, and to the Metropolitan Hospital and Dispensary. Illustrated by fifty-seven engravings. New York: William Wood & Company. 1900.

Dr. Valentine's book gives a short, concise description of the methods employed in treating gonorrhea by irrigation. The author states that Goldberg's researches show that by this plan 90 per cent. of cases are cured within fourteen days. The average general practitioner, and his patient too, would certainly consider such results satisfactory.

Dr. Valentine describes his irrigator minutely, and gives full and complete directions regarding its use in acute anterior gonorrhea and in acute posterior gonorrhea and for washing out the bladder. The author states that "all the steps of intravesical irrigation, like those of anterior irrigation can be effectively, thoroughly and painlessly performed without soiling any part of the patient's person or body, or of the office." The complications and sequelæ of gonorrhea are considered in detail and appropriate treatment is suggested. An important chapter is devoted to chronic gonorrhea, its causes, diagnosis and treatment.

In another chapter the author gives valuable instructions in regard to digital palpation of the urethral adnexa. Uncured, latent, or "residual gonorrhea in women" is certainly responsible for many cases in which the exact source of the infection is in doubt. The diagnosis of this condition is given in a short, interesting and satisfactory chapter.

It is Dr. Valentine's opinion that the diagnosis in cases of chronic gonorrhea is practically impossible without the aid of the urethroscope. He states that the technique of this instrument is learned with difficulty from written descriptions, but that it can be readily acquired by a few lessons from a colleague who has been properly instructed. For the benefit of "those who are pre-

vented from obtaining personal instruction in the urethroscopic appearances," the author describes the normal and the pathological conditions that may be observed with this instrument.

Every general practitioner who treats cases of gonorrhea should read Dr. Valentine's book. A. E.

Imperative Surgery for the General Practitioner, the Specialist and the Recent Graduate. By Howard Lilienthal, M.D., Attending Surgeon to Mount Sinai Hospital, New York City. With numerous original illustrations from photographs and drawings. New York: The Macmillan Co.; London: Macmillan & Co., Limited. 1900. Toronto: Carveth & Co. Price, seventeen shillings net.

It takes but a moment for anyone taking up Lilienthal's "Imperative Surgery" to judge well of the book. Why? Because in the first place it is printed on magnificent paper, giving a typographical richness which is too often absent in works which have, owing to their nature, to be freely illustrated. Good, clear illustrations, and especially those from photographs or drawings made during the progress of the actual work, add greatly to the value of any book, and we don't hesitate to state that those in Dr. Lilienthal's work are amongst the finest we have ever seen. We are delighted with the type used throughout the book, as it is considerably larger than that ordinarily found in medical works. That feature also adds to the value of any volume, and we wish publishers would take the hint, even though the price of the work has to be increased somewhat. What the author has accomplished here is to take up the diagnosis and treatment of conditions demanding immediate operative measures. He has taken it for granted that there is no expert assistance within call, and that the attendant is left largely to his own resources to carry through the case. One point we are pleased to notice is that Dr. Lilienthal does not leave his reader, placed in the throes of an emergency, to have to pick and choose one out of several methods of procedure, but pins him down to one and one only, and that one the best. We cannot refrain from referring specially to the illustrations given in the article on appendectomy. They are simply grand, and so clear that one would almost imagine that he was standing immediately behind the operator. We heartily recommend to all the purchase of Lilienthal's "Imperative Surgery."

The Medical Annual and Practitioners' Index. A work of reference for Medical Practitioners. Contributors: Jas. Cantlie, M.A., M.B., Prof. A. H. Carter, Prof. Hy. D. Chapin, J. E. Cooney, L.R.C.P., R. J. Coulter, M.B., F. Richardson Cross, M.B., R. M. Fenn, M.B., T. Colcott Fox, B.A., S. G. Gant, M.D., H. Bellamy Gardner, M.R.C.S., A. E. Giles, M.D., E. W. Goodall, M.D., J. D. Grant, M.D., G. M. Hammond, M.D., Lieut.-Col. W. Keith Hatch, F.R.C.S., G. A. Hawkins-Ambler, F.R.C.S., Robert Jones, F.R.C.S., Priestley Leech, M.D., and twenty-one others. 1900. Eighteenth year. Bristol: John Wright & Co., Stone Bridge; London: Simpkin, Marshall, Hamilton, Kent & Co., Limited; New York: E. B. Treat & Co.; Toronto: J. A. Carveth & Co.

There are some books the annual appearance of which is always looked forward to. Of that number the "Medical Annual" is certainly among the foremost, and there are very few indeed of those, who for many years past have been regular subscribers, who do not take pleasure in paying out the small amount necessary for its purchase. The "Medical Annual" is becoming larger and larger as each issue comes to hand, till now with the eighteenth year of its existence just opening, the book will in size compare well with many of the more pretentious ones on the shelves of the practitioner's library. The 1900 Annual is a success. It is full from cover to cover of the most recent information on a vast number of subjects, and the information given is epitomized to such an extent as to be perused in a short time and therefore most acceptable to the busy doctor. The 1900 Annual, we predict, will have the largest sale in its history. W. A. Y.

Surgical Pathology and Therapeutics. By JOHN COLLINS WARREN, M.D., LL.D., Professor of Surgery in Harvard University; Surgeon to the Massachusetts General Hospital. Illustrated. Second edition, with appendix containing an enumeration of the scientific aids to surgical diagnosis, together with a series of sections on Regional Bacteriology. Philadelphia: W. B. Saunders, 925 Walnut Street. 1900. Canadian Agents: J. A. Carveth & Co., Toronto. Price, $5.00 in cloth, $6.00 in half morocco.

A reliable work on surgical pathology is of absolute necessity to the practising surgeon, as no man can expect to do successful work in surgery without a keen knowlege of pathology and bacteriology. To one with such knowledge at his finger tips, the most complicated problems become comparative simplicities, and the ability to correctly diagnose, a matter of far greater ease. Dr. Warren has in this work so associated pathological conditions with surgical diseases, their symptoms and treatment, as to make the two subjects of surgical pathology and surgery seem as one, and a most interesting and readable one at that. The author has done so in such a manner as to impress the student with the value of these lines of study as the only correct foundation for successful clinical research. The second edition of this book is considerably larger than the first and is in every respect fully up to date. This edition shows a great deal of additional work on the part of the author since the first came from the press, especially in the new appendix and the chapter on Antiseptic Surgery. The latter is one of the most interesting chapters we have ever read on the subject, and is alone worth the price of the book. W. A. Y.

A System of Gynecology by many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College; and W. S. PLAYFAIR, M.D., LL.D., F.R.C.P., Professor of Obstetric Medicine in King's College and Obstetric Physician to King's College Hospital. New York: The Macmillan Company; London: Macmillan & Co., Limited; Toronto: J. A. Carveth & Co.

We think it was a very wise idea of Dr. Allbutt in publishing his magnificent "System of Medicine," to issue a separate volume on Gynecology, this department of medicine having of late years grown to such an extent as to require more than a mere section or series of chapters forming but part of another volume. There is no doubt that the advances in gynecology have been no less than remarkable, and it is well that the practitioner of to-day has at his elbow a book such as that of Allbutt and Playfair, giving in condensed form this subject, splendidly arranged and presented most palatably. Though this book has been on the market a year or two now, we find comparatively little which can be improved upon to any extent, excepting here and there throughout the work, where the views taken are not of course as modern as those now entertained. Among the contributors are Berry Hart, A. H. F. Barbour, John Halliday Croom, A. R. Simpson, J. Bland Sutton, J. K. Thornton, R. Milne Murray, Henry Morris and J. Greig Smith.

Saunders' Question-Compends, No. 2. Essentials of Surgery, together with a full description of the handkerchief and roller bandage. Arranged in the form of questions and answers. Prepared especially for students of medicine by EDWARD MARTIN, A.M., M.D., Clinical Professor of Genito-Urinary Diseases in the University of Pennsylvania. Illustrated. Seventh edition. Revised and enlarged, with an appendix containing full directions and prescriptions for the preparation of the various materials used in antiseptic surgery; also several hundred receipts covering the medical treatment of surgical affections. Philadelphia: W. B. Saunders, 925 Walnut Street. 1900. Toronto: Carveth & Co. Price, $1.00.

The seventh edition of Dr. Martin's Question-Compend on the Essentials of Surgery is certainly larger and more complete than any of its predecessors. There is no doubt that such a work can prove of wonderful value in assisting

the student to form a good groundwork for his more complete study of the subject later on, and many a graduate of the present day can look back and thank just such a book as this for putting him through a stiff oral examination in surgery, by having impressed upon his memory facts which might otherwise have slipped away.

Injuries to the Eye in Their Medico-Legal Aspect. By S. Baudry, M.D., Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the original by Alfred James Ostheimer, jun., M.D., of Philadelphia, Pa. Revised and edited by Charles A. Oliver, A.M., M.D., Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital; Member of the American and French Ophthalmological Societies, etc. With an adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., Member of the Philadelphia Bar. Extra cloth, $1.00 net. Philadelphia: The F. A. Davis Co.

This small book will prove of the greatest value to those practitioners who act as attendant surgeons to large factories and institutions where possibly hundreds of hands are daily employed and where injuries are being constantly sustained by one or more of the employees. Lesions of the eye are becoming more and more frequent ever day with damage suits as the natural sequence, and the practitioner is often called upon to give evidence bearing upon such cases. A book such as this of Dr. Charles A. Oliver's will throw light upon this subject, and will, we feel sure, in many instances prove of the greatest value to medical jurists.

The Refraction of the Eye, including a complete treatise on Ophthalmometry. By A. E. Davis, A.M., M.D., adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital. The Macmillan Company, London and New York. 1900. Price, $3.00.

This is the only work in English devoted to the ophthalmometer. On refraction, retinoscopy, and ophthalmoscopy we have works galore, but the ophthalmometer has heretofore, by English authors at least, not been thought worthy of a monograph however brief. They do not agree with the author who prefers the easy but inexact estimation of refraction by the ophthalmometer and trial lenses to the more difficult and more exact method by retinoscopy and ophthalmoscopy. While we cannot agree with the estimate of the author as to the clinical value of the ophthalmometer we can say that he has produced a most useful guide to the use of that instrument, and that his book gives evidence of abundant and careful work. The ophthalmometer is no royal road to refraction, as the victims of the "oculist opticians" daily bear witness.

J. M. M.

[PUBLISHER'S DEPARTMENT.]

Cystogen.—Hexamethylen-tretamin, the ammonia salt of formic aldehyde, was introduced into therapeutics by Nicolaier, of Berlin, since which time articles have appeared in European and American journals commending its use. Cystogen is an American output of this same salt, is a weak base, occurs as white crystals, and is freely soluble in water. It is best administered in a glass of water, the average dose being five grains three or four times daily. It may be administered in this quantity for months without ill effects. Ten or fifteen minutes after administration, cystogen and also formaldehyde can be detected in the urine, showing conclusively that this salt liberates formaldehyde in the genito-urinary tract, and in all probability in the blood itself. For days

after its administration has been discontinued it has been detected in the urine. The influence of cystogen, therefore, as a germicide or hindrance to the development of micro-organisms and as a solvent of uric acid may be expected to be continuous. This salt offers the opportunity of employing the well-known germicidal properties of formic aldehyde without experiencing any of the irritating properties which forbid the use of the latter. In the treatment of the uric acid and rheumatic diathesis it has proven a valuable agent. It is indicated in the treatment of tonsillitis, hay-fever, non-suppurative otitis media involving diathesis.

Magee's Emulsion.—Dr. Willis A. Hammond, of Madison, N.Y., one of the most prominent physicians and surgeons in his part of the State, in answer to our recent inquiry, writes as follows: "Yes, sir, I know all about your Emulsion. I think I have used your preparation of cod liver oil ever since it has been on the market. I use no other; and it is just what I use to restore the strength after la grippe. It is an elegant preparation, suitable to all stomachs, and 'children cry for it.' I cannot say too much in its praise." What more can we add?

Boston, Mass., December 1st, 1899.

Magee Emulsion Co., Troy, N.Y.

Gentlemen,—We want in a word to convey to you our satisfaction in the use of your valuable product. We have found the results to be not only quick but, in the great majority of cases, permanent. The class of people who come to our doors are the working people, who, from the nature of their calling, are sadly in need of what will *at once* show result, and we can say that we find in all cases that it has done more than we anticipated.

Very truly yours,
The Suffolk Hospital,
By Albert C. Smith, *President.*

Alberton, Md., October 13th, 1899.

Magee Emulsion Co., Troy, N.Y.

Gentlemen,—I intended writing you some time ago, but coming across your letter of March 27th, I am reminded that I have not done so. The bottle of Magee's Emulsion so kindly sent was given to the four-year-old child, spoken of in my letter of March 24th. This little fellow brushed very close to the dark valley, with as bad a case of broncho-pneumonia as I have ever seen; he was so weak that he actually fainted lying on his pillow. The Emulsion was all that one could wish for in the rapidity and permanency of its effects, as his recovery was quick and perfect.

Very truly yours,
Wm. B. Gambrill.

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Original Contributions.

THE RELATION OF DEFORMITY OF THE PELVIS TO LATERAL CURVATURE OF THE SPINE.*

BY H. P. H. GALLOWAY, M.D.,

Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Orthopedic Surgeon, Grace General Hospital: Member of the American Orthopedic Association.

OF the various theories which have been advanced regarding the causation of lateral curvature of the spine, that which attributes to the superincumbent weight the chief etiological importance is the one most generally accepted, and rightly so. It is probable, however, that the superincumbent weight can produce lateral curvature and rotation only when the spine has already deviated from the vertical position so that the downward pressure bears obliquely upon some portion of the spinal column. This has been shown experimentally by Bradford & Lovett, and is in harmony with what one would expect from theoretical considerations. This primary want of erectness of the vertebral column may grow out of various conditions. Unbalanced muscular development, a slight paralysis of one lower extremity, a painful or weak foot, or a difference in the length of the legs may lead unconsciously to the assumption of a faulty attitude because of its being the position of greatest ease, or of least effort. Given a faulty attitude habitually assumed, especially in a growing child of weak muscular development and imperfectly ossified bones, and the conditions

* Read before the American Orthopedic Association at Washington, D.C., May 1st, 1900.

are ripe for the superincumbent weight to become a slowly acting but irresistible mechanical force in producing lateral deviation and rotation, at first slight in amount and easily corrected, but finally altering the shape of the vertebræ and putting upon the deformity the stamp of permanence.

While accepting this explanation of the mechanics of many cases of lateral curvature, my observations have convinced me that the primary mechanical fault in certain cases is one which has received scant attention in orthopedic literature.

Several standard works on orthopedic surgery refer to deformity of the pelvis in connection with the subject of lateral curvature, but the pelvic distortion appears to be regarded as an effect rather than a cause of the spinal deformity. Thus, in the last

Fig. 1.

edition of Bradford & Lovett's work ("Orthopedic Surgery," Bradford & Lovett, 1899), we read, "In severe cases, all the bones of the trunk may be altered and also the pelvis" (page 104); and in another place, "The pelvis is not necessarily distorted in lateral curvature of the spine, but the bones of the pelvis may, if not sufficiently unyielding in their structure, become altered by abnormal pressure or strain" (page 110). Tubby says ("Deformities: a Treatise on Orthopedic Surgery," by A. H. Tubby, 1896), page 140: "The pelvis in severe cases is much deformed. In the ordinary deformity to the right in the dorsal, and to the left in the lumbar region, the shape of the pelvic cavity is abnormal, the lumbo-sacral angle pointing to the left and encroaching to a marked degree on the left half of the cavity. . . . The wings of the sacrum and ilium on the left side are thickened and the

crest of the ilium is lower.". An illustration here reproduced, accompanies the description (Fig. 1). It seems clear that these writers regard the pelvic distortion as secondary to and consequent upon the spinal deformity, but it appears to me that the cause is mistaken for the effect.

Aside from *post-mortem* proof, it must be evident to every one who carefully examines many cases of lateral curvature that the pelvis often is not symmetrical. It will be observed quite frequently that one posterior iliac spine or one iliac crest occupies a lower plane than its fellow. In some cases measurement plainly shows this to be due to a difference in the length of the legs, but in not a few instances the most careful measurements can detect

FIG. 2.

FIG. 3.

no such disparity. The plain inference is that there is some asymmetry of the pelvis itself—that its two lateral halves are of unequal size or different in shape. If one lateral half of the pelvis is smaller than the other, or if the pelvis as a whole is distorted, so that the posterior iliac spine or the iliac crest of one side is lower than that of the other, it is fair to assume that the sacrum which is grasped between the two ilia is somewhat tilted laterally, and that consequently its base is on a lower plane at one side than at the other. As the base of the sacrum is the foundation upon which the vertebral column is erected, if this be slanting the column resting upon it will also lean to one side. Being a flexible instead of a rigid column, however, and having attached to it muscles which can move it in various directions, the individual

to whom the column belongs instinctively endeavors to bring it to a more erect position so as to restore his equilibrium. And because the column is made up of various segments more or less freely movable upon one another, this effort to straighten it produces, not a sharp bend but a curvature in the lumbar region, and this necessarily leads to one or more secondary or compensatory curvatures higher up. And because the anatomical structure of the spine makes any great amount of lateral bending impossible without accompanying torsion, rotation is produced as well as curvature.

Figures 4, 5, 6 are from a paper by Dr. James Clifton Edgar, which appeared in the *New York Medical Journal* on Dec. 5th, 1896, and are intended to show various types of deformed pelves, which may give rise to dystocia during labor. These figures, used for the purpose of illustrating an entirely different subject,

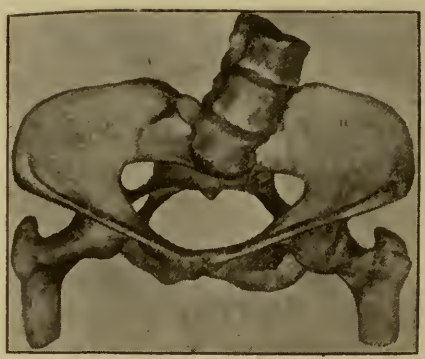

Fig. 4.

also show clearly that a tilted sacral base, with the portion of the spinal column immediately above it leaning to the same side, is by no means merely a matter of theory or imagination.

This slanting sacral base is also well shown in Figs. 1, 2, 3, reproduced from Tubby's book, illustrating specimens in Guy's Hospital Museum.

A spinal column resting upon such an inclined sacral base as that shown in several of these figures must necessarily start upward leaning to one side, and curvature and rotation are inevitable as a result of the individual's efforts to restore his equilibrium. The portion of the trunk above the pelvis is not placed squarely over the latter, and the curvature results from the patient's effort to restore the proper balance of the body. Just here it may be pointed out that the prominence of one hip in the case of an individual with a deformed pelvis is not necessarily entirely due to the altered relation of the pelvis to the portion of the trunk above

it, but is also to some extent directly dependent upon the pelvic deformity.

That deformity of the pelvis is often associated with lateral curvature is not disputed. The point under discussion is which is primary and which is secondary, which is cause and which effect? To my mind it is much more reasonable to look for the primary fault in the foundation than in the superstructure.

The pelvis is practically a solid bony basin, the component parts of which admit of little or no motion between them. In standing it is poised upon the powerful lower extremities by which it is brought into intimate relation with the supporting surface of the earth, while in all ordinary sitting postures, it is more or less perfectly balanced upon the tuberosities of the ischia. On the other hand, the vertebral column, above the sacrum, is composed of segments freely movable upon one another and separated in

Fig. 5.

front by yielding cushions. Resting upon the free upper end of this swaying column, where the leverage is greatest, is the large, heavy, overhanging head. In short, the conditions are such that the column can be held erect only by continuous muscular effort, and the moment the muscles relax sufficiently to allow some portion of the spine to deviate to one or the other side, the superincumbent weight becomes a possible deforming mechanical force, of equal efficiency whether the individual be sitting or standing.

It is unreasonable to suppose that a solid and relatively fixed foundation like the pelvis should fall prey to any distorting influence that could be exerted by such an unstable, jointed superstructure as the spine; while on the other hand, the inherent adjustability of such a superstructure must cause it to accommodate itself to a tilted foundation. This can be at once demonstrated by raising one side of the pelvis by putting an elevation of an inch or two under one foot. By this simple experiment, we artificially

raise one side of the sacral base, with the result that the spinal column instantly accommodates itself to the tilted foundation, exhibiting a lateral curvature.

The question may arise: If the pelvis be so circumstanced that it does not yield readily to the influences which gives rise to deformity in the spine, as is here contended, how does it become deformed so as to be the starting point of the curvature? Although the answer to this question does not come properly within the scope of this paper, the object of which is simply to inquire what is the true relation of lateral curvature to the pelvic deformity which it is admitted is frequently associated with it, a word may be added.

It is universally accepted that the severer forms of pelvic distortion in the vast majority of cases are traceable to rickets,

Fig. 6.

and when it is considered how frequently various other evidences, sometimes slight but none the less unmistakable, of the effects of this disease upon the skeleton are met with, it is not unreasonable to suppose that the pelvis, which is so situated that only palpable deformity is likely to attract attention, suffers from some degree of asymmetry more often than is generally supposed. At any rate many experienced obstetricians believe that slight but unrecognized degrees of pelvic deformity are responsible for numerous cases of difficult parturition. This belief, together with the fact that lateral curvature occurs much more frequently in females than in males, deserves consideration in connection with the writer's contention that pelvic deformity may stand in a causative relation to lateral curvature.

As further possible causes of pelvic deformity, it is scarcely necessary to mention osteomalacia and dislocation of the hip, or

to refer to the fact that there is no evidence to show that slight unilateral asymmetry of uncertain origin is less apt to occur in the pelvis than in other portions of the body.

Another matter calls for a word of consideration in connection with the subject of this paper. Most cases of lateral curvature present deformity in both dorsal and lumbar regions, but it has always been a disputed point, which should be regarded as the primary and which the secondary curvature. If it be admitted that pelvic deformity is the initial mechanical fault in certain cases, then in this class at least the lumbar curve is primary.

12 East Bloor St., Toronto.

CLINICAL NOTES ON THE USE OF EUDOXINE IN TYPHOID FEVER.

BY A. J. HARRINGTON, M.D., M.R.C.S.(ENG.), TORONTO.

PATIENT, male, aged 26. Tubercular history, mother and sister having died from phthisis pulmonalis. Patient the subject of chronic nasal catarrh, which had produced almost complete deafness from extension to middle ear through eustachian tube. Had been treated by several specialists without benefit.

Dec. 19th, 1899, saw patient who said he had taken cold. On examination, mucous rales were found on both sides of chest; respirations 28; temperature, 101.2; pulse, 90. Ordered to bed, with instructions to give 5 grains Dover's Powder at bedtime, and drop doses of aconite, with 15 minims of spirits of nitrous ether in water every hour, also a seidlitz powder early next morning. 20th, condition seemed easier; somewhat irritable cough, but loose and free. Pulse and temperature, 101; resp., 24; bowels had acted freely. Examined sputa, which gave negative results; ordered sedative expectorant; little change next two days. Morning of 23rd, at 3 o'clock, was hurriedly summoned; found patient in great pain; referred to spot two inches to the left and two inches above navel; gave hypodermic morphia sulph. and atropia, hot applications having failed to relieve. 24th, evening. temperature, 103.2; resp., 24; pulse, 96. Some tenderness over painful part referred to; no gurgling in right iliac region; no distension. Ordered 1-10th grain calomel tablets, to be followed by saline. Next morning his temperature was 102, pulse, 90; had a restless night. Evening temperature, 103.4; resp., 24; pulse, 96. Bowels had acted three times, and was offensive. Still considerable expectoration, with no bacilli. 26th. Some tympanitis; temperature had been irregular. Examined the blood, which responded to

Widal's test. There had been no rose-spots, no iliac gurgling, and no characteristic evening elevation of temperature. I had heretofore thought this a tubercular case. I now began, or at least continued, my mild eliminative saline treatment, and gave besides 5 grains eudoxine every two hours. Another circumstance had been progressing slowly which added another complication to my case, and that was the spot where the patient had complained of pain on the morning of the 23rd, when I had given him the hypodermic injection, began to enlarge, and in a few days assumed a bulging about the size of a saucer, and was due to forward projection of the rib cartilages by the pressure upwards of something below, which I took for thickening at the pyloric end of the stomach, probably tubercular. He had nausea on several occasions, but only vomited twice. My confrere, who saw him in consultation, was evidently of the opinion that the bulging was hepatic in origin, but was very reserved in giving an opinion. However, in a few days the tympanitic state of the abdomen has much lessened, the stools were quickly rendered antiseptic by the eudoxine tablets, and at the end of the week was thoroughly gone, but the temperature kept between 101 and 102 until the 26th day of January. On January 27th, the temperature was 99.2; the pulse at no time exceeded 102. The bowels were moved by enema every other day. The saucer-like protuberance over the lesser end of the stomach gradually passed away. The patient eventually recovered, and has no symptom of tubercular trouble other than his looks. He has had some persistent edema of left leg, due to venous obstruction, which will, I think, in time pass away. I had no intention of going into all the minor details of this interesting case when I began; what I really wanted to show was the very satisfactory way in which the 5-grain eudoxine tablets acted as a disinfectant and deodorant to the fecal discharges. After seventy-two hours the tympanitis was completely gone, the offensive discharges were corrected, and the patient, as far as his intestines were concerned, required little attention. Eudoxine, which is the bismuth salt of tetraiodophenolphtaleni (nosophen), is prescribed in powder form in 5-grain tablets, is tasteless, and may be administered for an unlimited period with absolute safety. The dose usually prescribed is 5 to 15 grains 3 to 5 times daily. The diet ordered for this case of typhoid was milk, always diluted with soda water, barley water, or plain boiled water, also peptonized milk, albumen water, ice cream, broth, milk and gruel, and peptonized jelly. A great many men are now giving more generous diet in typhoid, but there are always extremists. In the above list is everything that a patient requires if properly administered. I have never lost a case of typhoid, although I cannot say that my cases have been many, but they have certainly given me little

anxiety. My treatment has always been mildly eliminative, with thorough disinfection, and diet as above, with sponging for pyrexia. I have since used eudoxine in two cases of fermentative diarrhœa, and have been thoroughly convinced that in it we have a powerful intestine antiseptic. Its further use may be more convincing.

BROAD LIGAMENT CYST.*

BY CHAS. M. SMITH, M.D., ORANGEVILLE, ONT.

Mr. President and Gentlemen,

I merely purpose to give a brief outline of some of the features with which we may have to deal in that interesting variety of cyst, known as intraligamentous or broad ligament cyst, as exemplified in the case which furnished the specimen presented. The case was more remarkable for the absence than the presence of embarrassing complications such as frequently, in fact usually, mark such cystomata.

Mrs. S., the mother of nine children, and who was now fifty-three years of age, had been slowly increasing in girth for some years, but deemed it owing to increasing corpulence, until vesical and intestinal difficulties compelled her to consult her physician.

A unilocular ovarian cyst was diagnosed, and operation was advised.

Patient's consent was not gained until three months later, when increasing dyspnea rendered her life intolerable. After a few days' preparatory treatment, and thorough flushing of the *primae viae,* an aseptic room was secured at her own home, a comfortable farm-house. The abdominal surface and vagina having been well disinfected after thorough cleansing, an incision 3 1-2 inches in length was made slightly to the left of the linea alba. The subcutaneous fat was 1 1-2 inches thick, and in order to secure retraction, two long loops of silk were passed on each side through peritoneum and posterior rectal fascia and given into an assistant's hands. This brought to view, not the pearly surface expected, but a reddish, or rather purplish vascular-looking tumor, the appearance of which rather disconcerted me. But as I had taken the precaution of having an assistant pass both a vesical and uterine sound previously, I could only conclude that I had before me an intraligamentous cyst, for the two fingers could easily map out the outlines of the uterus with the contained sound, showing that the tumor could not be either the uterus or an edematous myoma of that organ. The fingers and hand sweeping

* Read at the Ontario Medical Association Meeting, Toronto.

readily over the upper and posterior aspects of the growth proved that no adhesions existed. Crowding the cyst well up in the wound, and pressing margins of incision backwards, patient was turned somewhat over on the left side, and the trocar was introduced, giving vent to an enormous accumulation of coffee-colored fluid, somewhat thinner than the usual contents of ovarian cysts, but more syrupy than that of parovarian cystomata. On introducing the hand into the cyst, it was found to contain no secondary growths, but when, after removing the hand and again sterilizing it, I attempted to extract the collapsed cyst, I was unable to bring more than about two-thirds of the neoplasm through the incision, which had already been extended to five inches. I then ligated left infundibulo-pelvic ligament with silk, and tied the uterine extremity in two sections, in which manœuvre I was much aided by the assistant with the sound in uterus, which organ by the way admitted the sound to a depth of 3 1-2 inches. A portion of the cyst-wall which was more loosely attached and less vascular than that presenting at upper extremity of wound was snipped with the scissors, the fingers introduced, and aided by moderately strong traction with the other hand, the cyst was shelled out of its bed with the exception of a strip along the upper and posterior aspect of the growth—apparently the expanded tube and remains of mesosalpinx. In order to avoid having a number of ragged peritoneal ribbons I again used the scissors, cutting between two pairs of hemostatic forceps with jaws protected by rubber tubing. A very fair pedicle was drawn out, and secured with figure-of-eight ligature. The raw surface of stump was touched with thermo-cautery. The condition of patient being excellent, I carried the ends of ligatures grasped in the extremity of a long pair of forceps, drawn down into the cul-de-sac, and with assistant's help the ends were drawn through an opening into the vagina, and secured around a pledget of iodoform gauze. The anterior and posterior raw peritoneal edges were whipped together with a button-hole stitch. Two quarts of hot saline solution were used to flush out the blood, and the wound was brought together with five retentive sutures of silk-worm gut, a double row of continuous catgut uniting first the peritoneum and posterior rectal fascia, then the muscle and anterior fascia, upon which a small roll of iodoform gauze was laid, reaching from upper to lower end of wound, and protruding from lower extremity. Edges of skin were united by continuous suture of silk.

Uninterrupted recovery took place without any subsequent ventral hernia, ligatures came away on eighteenth day, and patient enjoyed good health until her death from apoplexy five years subsequently.

Selected Articles.

THE DIAGNOSIS OF PERFORATION IN TYPHOID FEVER.

BY ALEXANDER M'PHEDRAN, M.D.,
of Toronto, Ontario.

THE symptoms of perforation in typhoid fever are generally considered to be so marked as to render recognition of the complication easy and certain. The symptoms looked for are those of perforative peritonitis, viz.: sudden onset of severe pain in the right iliac fossa, soon becoming general over the abdomen; early and recurrent vomiting; rigidity of the wall of the abdomen, which may be retracted but is usually distended; costal breathing; and such signs of collapse as a fall of temperature, pale and pinched features, and a rapid small pulse. As reaction sets in the temperature rises, the pulse increases in frequency, the general surface becomes livid, and covered with cold clammy perspiration, and with the escape of gas into the peritoneal cavity, the area of liver-dulness in front and at the side becomes tympanitic.

Such are the symptoms usually regarded as essential to a diagnosis of acute perforative peritonitis in an ordinary case of typhoid fever. In cases of great severity with marked delirium and great distention of the abdomen, the symptoms may be masked, as they may also in cases characterized by much debility. In these cases reaction is slight, and only a subacute peritonitis results.

It should not be forgotten that symptoms identical with the most severe cases resulting from perforation of the intestine may be due to perforation or rupture of the gall-bladder, to sloughing of a mesenteric gland or to rupture of an acute splenic abscess.

In not a few instances, however, of perforation of the bowel in ordinarily robust persons in whom the disease is pursuing a mild course, there may be none of the striking symptoms characteristic of this grave complication. In these cases the diagnosis is difficult and the treatment to be advised uncertain. These difficulties are well illustrated by the following cases:

A bookkeeper, aged 48, came under treatment in the autumn of 1890, for extreme dyspnea which proved to be caused by pressure on the bronchus by a syphiloma in the apex of the

right lung. Potassium iodid was given freely with complete relief to his dyspnea and restoration of good health. In the following January he felt indisposed and his appetite failed. The temperature and pulse were normal, and his indisposition was attributed to disturbance of digestion by the iodid. I was requested to see him a week later and found that he had been suffering from pain in the abdomen for two days. He had not considered it severe enough to be of much moment. The peritoneal cavity contained some fluid, which was evidently due to subacute inflammation. Two days later he died, and on *post-mortem* examination two small typhoid ulcers were found in the lower part of the ileum, one of which was perforated and a considerable quantity of intestinal contents had escaped into the peritoneal cavity.

This was a case of apyrexial typhoid in a man in fair physical condition, and yet perforation without any localizing adhesions caused symptoms of only moderate severity, not sufficient to alarm him or his friends.

A second case was that of a young farmer who was admitted to the Toronto General Hospital in October, 1897. His afternoon temperature was about 102 degrees F., and his general condition was good. At the end of the third week, in the afternoon, he complained of pain in the hypogastric zone. Being in the hospital at the time, I examined him. The pain was not severe. There was no disturbance of temperature, pulse, or respiration. The abdominal wall was not rigid, but pressure in the lower part caused some increase of the pain. Rectal examination revealed nothing abnormal. The house-physician was directed to watch the condition closely and to report later in the evening if the pain persisted. By some misconception, instead of reporting he gave morphin sulfatis gr. 1-4th hypodermically. This masked the symptom and gave him a good night's rest. On the following afternoon the pulse, temperature and respiration, and the appearance of the abdomen were not altered, but the facial expression was more anxious, and the abdomen somewhat more tender. As the patient's condition was good and a perforation very probable, an operation was done by my colleague, Professor Cameron. On opening the abdomen, the peritoneum was found somewhat congested. A large perforation was found in the ileum, two feet above the ileo-cecal valve, and this portion of the intestine lay in the pelvis, being incompletely walled off from the general peritoneal cavity. The inflammation of the peritoneum had been confined to the pelvic cavity, and was only beginning to extend to the general cavity. It was on account of these conditions that the symptoms were so mild.

The perforation was closed and the pelvic cavity cleansed. For two days the progress was satisfactory; then symptoms of

septic peritonitis set in and death followed on the fourth day. An immediate operation would very probably have been successful.

The object in writing this is to emphasize the fact already known but too often forgotten, that perforation in typhoid fever may, and often does, occur without the fulminant symptoms that we are accustomed to associate with this grave complication. Of the symptoms, persistent pain is probably the most constant. The symptoms are often masked by the prostration and delirium in grave cases, but they may be so mild and unobtrusive as to escape observation in patients who consider themselves scarcely ill enough to be in bed.—*Philadelphia Medical Journal.*

TREATMENT OF EROSIONS OF THE ANUS.

The treatment of fissures at the anus should, in the first place, be preventive in those persons in whom the skin of the part is sensitive and liable to cracks and small sores; and for such there is nothing better than the daily washing of the part with cold water and a soft sponge, and the avoidance of anything which may tend to irritate it, such as the use of printed or rough paper after defecation. When fissures really exist, they may often be cured by a nightly application of Goulard's liniment on a pledget of lint, or by gently touching the surface with a solution of nitrate of silver to coat the sore (gr. v. or x. — oz.). It is surprising the remarkable results that can be obtained in the treatment of simple fissures by local applications without operation. The treatment must be carried out with great attention to detail, and by the surgeon himself, and not the patient. It will fail in many, but in many others it will succeed. In children, the fact that fissures and erosions may be due to the scratching caused by the irritations of pin-worms must always borne in mind. In fissures complicated with polypi, the polypus must always be removed at the time of the operation; and in women suffering from the union of uterine and vesical trouble with painful ulcer, the uterus must be treated as well as the ulcer, or the operation on the latter will be apt to fail. In cases where the treatment by local applications has failed, the operation of drawing a sharp knife through the ulcer and muscular fibres directly beneath it is the one which should be given, preferring it to stretching, because it can be done in the most satisfactory way with cocaine, while stretching cannot, and because it can be done without any fear of subsequent incontinence, while stretching cannot. The cocaine (five minims of a four per cent. solution) should be injected beneath the ulcer. It is customary to use a fenestrated speculum in such an operation; but it may easily be dispensed with when a straight, blunt-pointed knife is used. The knife should be very sharp, and the operation must be

skilfully done, but when properly done it is usually successful. It is not necessary to cut entirely through the sphincter, and yet those fibres of it that form the base of the ulcer should be fairly divided, for it is by putting an end to the contractions of these fibres that the operation works its cure. The incision should always be extensive enough to produce a certain amount of relaxation of the muscle, and should begin in healthy mucous membrane above the ulcer and end in the skin below. The treatment of ulceration within the rectum is a much more difficult matter than the treatment of that at the anus, and yet in principle they are the same. In both we give the ulcer rest, and try to assist nature in her own methods by avoiding anything which shall interfere with the process of repair. The general treatment of ulcer of the rectum may therefore be summed up in a few words—rest, diet, and local applications. No treatment is likely to be of much avail without them. The rest in bed must in some cases be absolute. This point being carried to the surgeon's satisfaction, milk diet need not be absolute, but may be varied with soups and easily digested solids, as bread and crackers, care being taken to secure soft and unirritating passages. With such diet as this it will sometimes happen that a movement of the bowels every two or three days will be all that nature requires, and as long as such a condition causes no uneasiness, it is not necessary to interfere with it by laxatives. In cases where it is well borne, cod-liver oil may be administered both as food and laxative, often with excellent effect upon the general condition and the local trouble. In the way of local applications, suppositories may answer a good purpose in disease low down.

The menstruum should be of some substance which may be easily dissolved at the temperature of the body, and in the way of drugs, a suppository made up with some salt of bismuth will be found exceedingly grateful and relieving to the patient. A suppository which experience proves to be very soothing in ulceration of the rectum is one of Anusol, a combination of bismuth with iodo-resorcin sulphuric acid. Each suppository contains about ten grains of the drug, with balsam of Peru, oxide of zinc, and the excipient; one should be inserted into the bowel once or twice a day. Anusol seems to be undoubtedly an astringent in action and a thorough disinfectant. It allays the burning and soothes the pruritus so common, for instance, in cases of rectal inflammation. Not only that, but it softens fecal matter when impacted, and by that means relieves constipation. Anusol has no unpleasant after-effects, contains no narcotic substances, and has the advantage that "it can be used in both sexes, at all ages, and at any time." Dr. R. Timmerman, of Hanover, expresses himself as follows about this preparation:

"The preparation of the drug into suppositories is an advantage

to the patient, the physician, and the apothecary. For Anusol is spoiled by moisture and vivid light, and loses part of its efficacy; whilst combined with fats it keeps indefinitely. The combination with oxide of zinc as an adjuvant, and the other ingredients, has been shown by the experience of years to be the simplest and most efficacious. It would be a pity if the positively specific action of Anusol, and the reputation which it has obtained in all civilized countries should be endangered and diminished by improper preparation, or by combination with substances which interfere with its efficacy and impair its results. Furthermore, this method saves the physician trouble in prescribing and dosage, and the apothecary the nuisance of preparing the suppositories."

It may also be stated that, besides being a most successful method of treating erosions of the anus, Anusol suppositories are now recognized by a great number of surgeons as almost a specific for the treatment of hemorrhoids. They dispense with the necessity of using any of the salves known to the profession, so many of which contain narcotics or irritants of some kind. With rest in the recumbent position, and the use of one Anusol suppository night and morning, or even three times in the twenty-four hours, the physician will almost always get speedy results.

It will be found well occasionally to mix a tenth of a grain of morphine in a suppository, and administer this at night and morning. It certainly ministers to the local rest of the part, and it renders rest in bed much more endurable in persons of a nervous tendency. Certain good results may be gained by applications to the ulcerated spot by means of enemata or with a brush, and when the former are used, in cases where the disease is situated high up, the amount of fluid injected should be large. Three pints of water may be thrown into the upper part of the rectum, the sigmoid flexure, and the lower part of the colon, if the proper means be adopted, without causing any uneasiness at the time or any subsequent desire for an evacuation. Long, flexible, soft rubber tubes may now be obtained from any surgical instrument maker which are suitable for this purpose. The tube should be small and the opening in it just large enough to hold securely the smallest end-piece of an ordinary Davidson syringe. The injection should be given with the patient on the side and given slowly. The drug from which the best results may be expected, when used in this way, is the nitrate of silver, and the solution should vary in strength from twenty to forty grains to three pints of water. This plan of treatment has been very successfully employed in cases of dysenteric ulceration. There are, however, few means of treatment in cases of localized ulceration high up the bowel at all, comparable in results to the application of nitrate of silver on a uterine applicator through a long speculum. Every strength may be used from the weakest to the strongest, and no rules as to

strength or frequency of applications can be laid down, for here will appear the skill and experience of the surgeon.

The careful, patient employment of this method cured several cases of severe chronic ulceration in the upper part of the rectum, beyond the field of ordinary vision by the usual forms of specula, which seem at first sight to be amenable to colostomy. The use of the instruments necessary requires special skill and practice, and often some training on the part of the patient; and the treatment is often protracted, but the results are exceedingly satisfactory. The knife may serve a good purpose under several circumstances. Where the sore is of small dimensions and well limited in outline, even though it be above the external sphincter, it is sometimes of advantage to make an incision across the muscular fibres which form its base, and secure rest for it in this way. The operation is one of delicacy, but it is also one which may assist greatly in the cure. The application of strong nitric acid to a circumscribed ulcer of the rectum is often attended by the happiest results. In treating these cases by local applications, the surgeon must be prepared to ring all the changes, between a two-grained solution of nitrate of silver and fuming nitric acid, or pure carbolic acid. They are cases which require the utmost care, both as to the diagnosis in the first place, and the treatment; and many of them will end unhappily in spite of what can be done. And yet, when they present themselves in their earliest stages, before irreparable injury has been done, they are capable of being cured by the treatment which has been outlined. No case of simple ulceration, where the disease was seen at all early, failed to be cured by one method or another, but it has often been by several combined and only after months of treatment and the heartiest co-operation of the patient. In many cases the cure has been easy, especially in those where circumscribed ulcers within the bowel, which have long resisted treatment, have been found to depend upon blind internal fistulæ.

The practitioner should be very cautious in his prognosis as to the time required for treatment, remembering that it will of necessity be long. To accomplish anything with either tubercular or lupoid ulceration the treatment must be begun early. If a tubercular ulcer be completely excised or destroyed with the cautery before general symptoms of tuberculosis have shown themselves, there is a chance that it may be cured; and if lupoid ulceration be attacked before it has done irreparable injury, and thoroughly excised, it may also be induced to heal. By thorough excision, fully as wide of the disease as would be done were it known to be malignant, is meant—at least an inch in every direction. In old and advanced cases, beyond the benefits of local treatment, there are only two methods to be followed: one is complete resection of the diseased part, the other is colostomy.

Proceedings of Societies.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FIFTH TRIENNIAL SESSION HELD AT WASHINGTON, D.C., MAY 1ST, 2ND AND 3RD, 1900.

THE fifth triennial session of the Congress of American Physicians and Surgeons opened on the morning of May 1st under the most auspicious circumstances, and with a very full attendance. Throughout the meeting the mornings were devoted to work of the individual component associations and societies of the Congress, the sessions of the Congress occupying the afternoon. At 2.45, Tuesday afternoon, the Congress was opened by Dr. Landon Carter Gray, of New York City, Chairman of the Executive Committee, with a few remarks that were well received by the large and representative gathering. The Congress then proceeded to the consideration of the general subject of the meeting: *Bacteriology in Health and Disease.*

The first paper on the programme, *Adaptation of Pathogenic Bacteria to Different Species of Animals,* was delivered by Prof. Theobald Smith, of Boston, Mass. Dr. Samuel J. Meltzer, of New York City, then considered *The Physiological Resources of the Body in its Defence against Bacteria and their Toxic Products.* Dr. Harold C. Ernst, of Boston, Mass., had as his subject *Flagella and Serum-Reactions.*

The able paper of Dr. Richard C. Cabot, of Boston, Mass., on *The Relation of Bacteriology to Clinical Medicine,* was then delivered; and this was followed by Dr. Edward R. Baldwin, on *Bacterio-Therapeutics, with Especial Reference to Tuberculosis*—a scholarly paper. Prof. William S. Thayer, of Baltimore, then discussed *The Etiology of Malarial Fevers.* The next paper, by Prof. Simon Flexner, of Philadelphia, on *Bacteriology of Dysentery,* was delivered as an extemporaneous talk.

The first paper on the programme for Wednesday, May 2nd, was by Prof. William Osler, of Baltimore, Md., on *Modern Therapeutics.* This was not delivered, as Dr. Osler was unexpectedly and unavoidably prevented from attending the Congress. The

essay on *The Sociological Status of the Physician,* by Dr. Clarence J. Blake, of Boston, Mass., was then delivered; and then the poem, *The Evolution of the Physician,* Dr. S. Weir Mitchell's noteworthy production, was read.

The event of the evening session was the address by the President of the Congress, Prof. Henry P. Bowditch, who took as his subject, *The Medical School of the Future.* Following the delivery of this paper, a reception was given at the Arlington Hotel.

AMERICAN SURGICAL ASSOCIATION.

Twenty-First Annual Meeting, Held at Washington, D.C., May 1st, 2nd and 3rd, 1900.

After the announcements of the Committee of Arrangements and Executive Session, Dr. Robert F. Weir, of New York, gave the presidential address on:

Perforated Ulcer of the Duodenum.—The perforation is usually located within 1 1-2 inches of the pylorus, more commonly on the anterior wall; in 80 per cent. of the cases the ulcer is single, in 8 per cent. of the cases double, while in the remaining cases more numerous perforations occur. The causes of ulceration are difficult to determine; it has been attributed to habits of life, to circulatory disturbances, to the naturally delicate condition of the mucous membrane, to sepsis, burns, etc. The patients are of all ages, but it is more common between 20 and 50. In many cases healing occurs without serious results, but in some cases cicatricial contraction results. The symptoms are often vague and may be entirely wanting. The patient's previous history is of great importance; there is usually pain, and tenderness, and vomiting; hematemesis, blood in the stools, and jaundice may be present. Pain usually follows some time after eating; hematemesis is less frequent than with gastric ulcer; vomiting is of importance if combined with other symptoms; jaundice rarely follows cicatricial contraction. Blood in the stools generally gives them a tarry appearance, but in some cases the blood may be bright red. Great advances have been made in the diagnosis of such conditions of late, and Weir believes that the differentiation from gastric ulcer is not impossible. The symptoms of perforation are sudden acute pain, vomiting and shock.

Gastric Ulcer, Non-Perforating Hemorrhage.—Dr. William L. Rodman, of Philadelphia. The paper was based upon an exhaustive study of the statistics, and Dr. Rodman devoted his attention mainly to the treatment.

Perforating Ulcer of the Stomach.—Dr. J. M. T. Finney, of Baltimore, mentioned the great interest which had been taken in this subject of late, the increased number of operations, and the many exhaustive papers which have recently been published. The affection is most frequently met in young women of the lower walks of life; in men it usually occurs after 40. The site of the ulcer is more commonly the anterior wall of the cardia, next, most frequently the pylorus, then along the lesser curvature, and finally the posterior wall. In about 20 per cent. of the cases there is more than one perforation. The severity of the symptoms arising depends on the size of the perforation, the amount and character of gastric contents, the variety and number of bacteria present. If the stomach is empty, the chances for recovery are much more favorable. The stomach is capable of sterilizing itself, as the acid gastric kills many bacteria, but many may persist buried deeply in the mucosa.

Malignant Disease of the Stomach and Pylorus.—William J. Mayo, of Rochester, Minn., considers carcinoma of the stomach a strictly surgical disease. Early diagnosis is of the highest importance, and the surgeon should not wait to have the physician make it for him. Exploratory incision is as justifiable as in the case of the breast and uterus. The curability of malignant disease depends upon the histologic structure of the growth, its location, extension to neighboring tissues, glandular involvement, and the general condition of the patient. If the tumor has a large amount of stroma its growth will be slow, and the reverse is true if there is but a small amount. Disease of the cardia is generally easily diagnosed, but radical intervention is likely to be impossible, and while diagnosis of disease of the pylorus is difficult the prognosis is much better.

Benign Obstruction of the Pylorus.—Dr. Frederick Kammerer, of New York. Obstruction of the pylorus may be either congenital or acquired; there may be acute stenosis at birth as the result of fetal peritonitis, or congenital hypertrophy may exist. Acquired stenosis most commonly is an after-result of gastric ulcer, it may result from occlusion by benign tumors, from syphilitic gumma, from gallstones obstructing the pylorus, from spastic contraction, from hyperchlorhydria. If medical treatment fails, daily lavage, rest, and careful diet, surgical treatment is indicated. Kammerer mentioned surgical treatment by dilation of the stricture, simple division of adhesions, and resection of the pylorus, but he devoted most of his paper to the discussion of *pyloroplasty* and *gastroenterostomy.*

Gastric Dilation—Gastroptosis.—B. F. Curtis, of New York. In a discussion of the anatomy of the stomach, Curtis called attention to the fact that under normal conditions the pylorus can

scarcely be palpated and the lesser curvature not at all. Dilation may arise from obstruction to the outlet of the stomach from benign or malignant tumors, or from atony of the stomach walls, or from a combination of these causes. Atony of the stomach walls in its turn may result from some constitutional disease or from repeated overloading. The prognosis in atonic dilation under medical treatment is unfavorable, and operation is indicated when the patient is losing ground under systematic lavage and dietetic and medical treatment.

Hour-Glass Contraction of the Stomach.—F. S. Watson, of Boston. Hour-glass contraction of the stomach has existed as a surgical affection for over ten years, and during that time thirty-five cases have been operated upon. The methods employed have been: Gastroenterostomy, plastic operation, and gastroanastomosis by Wolfler's and Watson's own method. Watson first folds the stomach with the constricted part as a hinge, the sac nearest the pylorus is then fastened to the cardiac portion by four stay-sutures, and then the two sacs are securely sutured before opening the stomach; a longitudinal opening is then made in the stomach wall and the double partition between the two sacs is excised. The first patient, upon whom Watson operated, gained forty-two pounds in the year after the operation; she remains well, and is doing her work five years after the operation. In a second case a woman who had a long history of gastric ulcer was taken with symptoms of perforation. Operation was performed, and the perforation was sutured. The abdominal cavity and pelvis were infected at the time of operation, and the patient died four days later. At the necropsy the stomach was found to have an hour-glass shape, a fact that was not recognized at the time of operation because of adhesions. The pyloric end was also pulled up and attached to the lesser curvature by adhesions.

Diagnosis of Cancer of the Stomach.—John C. Hemmeter, of Baltimore. The only diagnosis of carcinoma that is of interest to the surgeon is the early diagnosis, and as there is a period of three months before any definite signs appear, this is very difficult. The first symptoms resemble those of nervous dyspepsia or chronic gastritis. The methods necessary for chemical and microscopical investigation are time-robbing and not generally suited for general practice. Such symptoms as pain, dyspepsia and the appearance of blood are of little value because found in other conditions.

Adhesions of the Stomach.—A. T. Cabot, of Boston. Ulcer of the stomach or duodenum and inflammatory conditions of the gallbladder most frequently give rise to adhesions. The symptoms, if mild, often remain unrecognized and may simulate biliary colic. Pain may be a marked symptom or it may be moderate and pass unnoticed; it does not radiate to the shoulder and is not

spasmodic. In cases in which there is a history of ulcer, or the symptoms of stone in the gallbladder, Cabot believes that operation for the freeing of adhesions is often advisable even if the pain be not severe. His results after such operations have been very favorable.

Observations on the Gastric Functions Before and After Gastroenterostomy.—Fisher, of New York, believes that the results of German investigators who have studied this subject are of little value, because of the short time that their patients were under observation.

Stricture of the Esophagus Following Typhoid Fever—Gastrostomy.—Frederick S. Dennis, of New York. A man of thirty-five was presented before the society, and in Dr. Denis' absence his paper was read by the Secretary.

Dislocations of the Hip; Demonstrations on the Cadaver Illustrative of their Mechanism.—Oscar H. Allis, of Philadelphia. Allis called special attention to the value of this method of producing different dislocations, their signs and the method of reduction, verifying his statements by incisions.

Discussion on Surgery of the Stomach, opened by W. W. Keen, of Philadelphia. Malignant disease of the stomach is of more importance at present than non-malignant disease, because of its greater frequency, and because of the great difficulties in diagnosis. During the past few years the specialist on gastric diseases has given the surgeon great aid in the diagnosis. Hemmeter has called attention to the fact that if operation is to be successful it must be performed within the first three months of the disease, and if the specialist finds any probability or even a possibility of this disease, exploratory operation is indicated. There is little danger in exploratory incision, but there is danger in late operation that we shall be able to accomplish nothing. If a palpable tumor is present recurrence is almost inevitable. M. H. Richardson, of Boston, believes that all methods of diagnosis should be exhausted before we resort to exploratory operation, but in case of doubt open the abdomen as soon as possible in all surgical affections of the stomach. In case of hemorrhage operation is not advisable unless medical means have failed. Perforation demands immediate operation, but the diagnosis is sometimes difficult. In case of carcinoma, the time for operation is before the tumor is felt, but not one case in fifty is suitable for operation at the time it comes to the surgeon. Total extirpation probably has a more limited field than was at first believed.

The Methods of Closing Abdominal Incisions.—M. H. Richardson, of Boston. Richardson advocates through-and-through suture as quicker, more convenient, less likely to leave dead spaces, which fill with blood and tend to produce infection, and he believes that

there is no more tendency to hernia. After using various materials for suture, he has adopted silkwormgut for closing the abdominal wall and silk for all other ligatures and sutures. It is questionable whether union is any more secure after suturing like tissues than if the peritoneum is sutured to the fascia and fascia to muscles. The number of hernias through the scars of abdominal incisions is insignificant.

Strangulated Hernia Through a Traumatic Rupture of the Diaphragm—Laparotomy, Recovery.—E. W. Walker, of Cincinnati. A man of twenty-nine was struck by a falling tree, and was only prevented from being completely crushed by one of the branches. Pain in the chest, nausea and vomiting, constipation and extreme shock resulted. After a time, the vomiting became stercoraceous. A median abdominal incision was made, and it was found the bowel had pushed into the thorax, and become strangulated. The bowel was pulled down, relieving the obstruction, and an attempt was made to suture the diaphragm. Rapid recovery followed, and the patient has been in good condition since the injury.

A Case of Subpubic Hernia of the Bladder Through the Pelvic Floor—Operation.—F. B. Harrington, of Boston. A woman of forty-six, who had a large tumor of the labium majus, was taken suddenly with retention of urine. Several years previously she had been operated upon for a large edematous fibroid of this region; the fibroid had recurred and pulled down the bladder. Catheterization reduced the size of the tumor considerably, but all efforts at reduction were unavailing. Operation was performed, reducing the hernia, and recovery followed.

ASSOCIATION OF AMERICAN SURGEONS.

Fifteenth Annual Meeting, Held at Washington, D.C., May 1st, 2nd and 3rd, 1900.

The President, Dr. Janeway, welcomed the members. He said that a number of the members were engaged in work that was designed to throw new light on new phases of disease, and were engaged in working on the various phases of new diseases. The pathologists were also present to continue the good work thus begun by the clinicians, and some of the members had devoted attention to the phases of disease that could be elucidated by the science of chemistry. He expressed the hope that the younger members would so arrange their time that they might add to the general

amount of information that these meetings bring forth. He made a plea for truth in medicine, truth in statistics, truth in diagnosis, truth in pathology, and truth in therapeutics. He reminded the members of the Association that during the past year Dr. J. E. Graham, of Toronto, and Dr. D. W. Prentiss, of Washington, had been removed by death.

Dr. James B. Herrick, of Chicago, read a paper entitled: *Notes on Diabetes.*

Dr. James J. Putnam, of Boston, read in behalf of himself and Dr. F. Pfaff, a *Communication on the Relation of Uric Acid Secretion to Epileptic Attacks.* They think that the toxin theory of the neuroses and psychoses is not well proved, and that further search for anatomic changes should be made. They made twenty-four examinations of urine from three patients in the Massachusetts State Hospital for Epileptics. The results of thes examinations do not bear out the statements that have been made that uric acid is below the normal for two or three days before the attack, then normal just before the attack, and above normal just after the attack.

Dr. Charles G. Stockton, of Buffalo, read the *Report of a case of Acute Ascending Paralysis, Showing Hematoporphyrinuria.*

Dr. A. C. Abbott, of Philadelphia, read a paper on *The Relative Infrequency of Acute Transmissible Diseases During the first Year of Childhood,* with a discussion of the probable reasons for the same. He presented charts showing the mortality from measles, scarlet fever and diphtheria in children under one year old, in children between one and five years, and in children between five and ten years of age. The tables show that the death-rate is greatest between the ages of one and five years; that from measles being 64.8 per cent., from scarlet fever, 63.9 per cent., and from diphtheria, 63.6 per cent.

In the discussion, Dr. E. L. Trudeau referred to the fact of the possibility of the inoculation of young animals with tuberculosis in spite of the assertion by some authorities that young animals could not be infected. Dr. George Shattuck thought that the number of mothers that had had diphtheria were few, and that, therefore, the extensive transmission of an immunizing substance for this disease in the majority of cases would not be possible.

Dr. J. P. C. Griffith, of Philadelphia, read a paper on *Recurrent Vomiting in Children.* He had seen four cases. The attacks were characterized by severe vomiting, which was grave and continuous, and by which everything was ejected from the stomach, and which frequently continued when nothing was put into the stomach. The bowels were obstinately constipated, but even after relief the vomiting continued. The patient was restless, the respiration was of a sighing character, the urine was diminished in

quantity. Two of the cases died. In one, autopsy showed an extensive degeneration of the epithelium of the stomach and of the intestine, parenchymatous changes in the pancreas, and the lesions of glomerulonephritis. The condition usually begins suddenly, without gastrointestinal disturbance, and the vomiting is continuous. Constipation is present, the relief of which does not stop the vomiting. Sighing respiration, which is noted, may be due to toxic action on the medulla or to weakness. Recovery begins for no apparent reason, and convalescence is rapid. The attacks occur in from one to eleven days, but there is no distinct periodicity.

In discussion, Dr. W. W. Johnston had seen a patient suffering from the disease who had vomited blood. The blood was usually altered, although it was at times bright red. He had noted the rapid development of great prostration with cyanosis. All the children he had seen were the offspring of nervous parents, and were precocious and the victims of child-neurasthenia themselves.

Dr. E. L. Trudeau, of Saranac Lake, read a paper on *Sanatorium Treatment of Pulmonary Tuberculosis, and its Results.* For him the pretuberculous stage of pulmonary tuberculosis is the first stage of the disease, before the physical signs have developed. He uses the X-ray apparatus and the tuberculin test before the physical signs have appeared in suspected cases. By the X-ray apparatus the diaphragm may be seen to be higher or to be limited in its excursions on the affected side. The tuberculin test had not resulted in injury to any of his patients. In the treatment, rest is essential, especially when taken in the open air. The patients at rest digest well, although taking no exercise. Tuberculin as treatment is injurious whenever the process is progressing. It should be used only in apyretic cases and should be given in small and frequently repeated doses, watching carefully the nutrition and the temperature. The remedy probably stimulates the formation of fibrous tissue. During the past fifteen years, of the 1,176 patients discharged alive, one-half are living, and one-half of these are perfectly well.

In discussion, Dr. Bridge thinks that when we begin to use sera we are apt to neglect the sanitary and hygienic measures that are so useful. He is an advocate of absolute quiet, full and free feeding, and fresh air. It may at times be necessary to wash the stomach and the large intestine. Dr. S. S. Cohen asked Dr. Trudeau what method of diagnosis he employed before the disease was far enough advanced to give results by X-ray examination, and whether, under the term rest, he included local rest of the lung as well as general rest of the body? Dr. Trudeau said that he made the diagnosis in early stages of tuberculosis by the temperature record. If the evening temperature is between 99.5 de-

grees and 100 degrees, and there is a slight disturbance of health, he makes the diagnosis. Tuberculin should be used only when necessary. Experiments with corneal lesions in rabbits, artificially produced, show that tuberculin does not cause the spread of the lesion. He procures rest of the lung by rest of the individual.

Dr. Kinnicutt, of New York, showed the specimen from a case of *Acute Phlegmonous Gastritis.* The patient was a male, aged forty-one years. There was no history of syphilis, but the patient was an alcoholic. The disease followed a drinking spell, and was ushered in by vomiting, first of food and later of a brownish fluid. There was abdominal pan, constipation, dry tongue, shallow respiration, 48 per minute, regular pulse, 108 per minute, restlessness, and an anxious expression. The temperature was 101 degrees by rectum. The physical examination was negative except for a slight hypertrophy of the left ventricle. The abdominal walls were rigid and deep palpation was sensitive in the epigastric and left hypochondriac regions. There was crepitation beneath the left costal cartilages. The urine contained casts. The patient grew progressively worse and surgical intervention was deemed inadvisable. At the necropsy the organs were normal except for the hypertrophy of the left ventricle of the heart, before alluded to. The peritoneum presented a slight serofibrinous exudate. The stomach wall was thick, especially at the pyloric end. The thickening was due to a purulent infiltration of the submucous coat with a yellowish exudate. There was a linear cicatrix on the posterior wall of the stomach, near the pylorus, on which was a necrotic area. The endothelium was desquamated on the serous coat. The muscle was invaded by mononuclear leucocytes. The submucosa was swelled to four or five times its normal thickness and contained leucocytes and micro-organisms. The lymphatics contained bacteria. The necrotic area in the scar had nearly exposed the submucosa, and was possibly the point of infection. The streptococcus was found throughout the stomach. The bacilli in the lymphatics were possibly of *post-mortem* origin.

Dr. J. H. Wright, of Boston, read a paper on *The Organism and Lesion of Actinomycosis.* The author believes that the disease is frequently unrecognized and that it is much more common than is ordinarily supposed. He gave a lantern demonstration of the lesions produced by the organism.

Dr. L. Hektoen, of Chicago, read a paper on *A New Pathogenic Fungus (Sporothrix Schenck).*

Dr. Richard C. Cabot, of Boston, read a paper on *Some of the Conclusions Reached after a Study of 110 Cases of Pernicious Anemia.* Of the 110 cases reported, 57 were males and 53 were females. Of the cases occurring in the female subject 4 followed

parturition, and in 1 of these, in which an autopsy was had, there was leucocytosis and diphtheritic endometritis. The disease is one of late middle life. He had seen all the cases within seven years, and thinks that the disease must be common in the vicinity of Boston. Many of the cases in the series were originally diagnosed general tuberculosis. Fourteen cases occurred at about the time of the menopause. Hemorrhage is probably a symptom and not a cause of the disease; it has been observed from the bowels, the nose, the gums, the stomach, and the ear. The symptoms are constant, in certain cases they are very mild; there is a lack of relation between the severity of the blood-lesions and the severity of the symptoms, and it is not the lack of the corpuscles only that cause the symptoms. Muscular weakness, dyspnea, gastrointestinal symptoms, such as vomiting and diarrhea, are seen. The latter train of symptoms is often paroxysmal. This fact is evidence against the hypothesis that atrophy of the gastric tubules is a cause of the disease. Hemic murmurs are always heard and occasionally a true regurgitant murmur is to be made out. The liver was enlarged in 30 cases, the spleen was enlarged in 13 cases.

Dr. Frank Billings, of Chicago, showed charts to illustrate *A Report of Cases of Pernicious Anemia with a Special Reference to the Blood-Findings.* In all, 19 cases were reported; 11 in males and 8 in females. The average age of the patient was 46 years. No existing cause could be determined except syphilis in one case. The symptoms were muscular weakness, dyspnea, palpitation, gastro-intestinal symptoms, and diarrhea as a rule. Nervous symptoms were frequent, particularly paresthesia of the lower extremities. The lemon-yellow tint was constant, the body-weight was preserved, cardiovascular symptoms were common, the spleen was enlarged in 4 and the liver in 3 cases. The stools were negative in all cases except one, and in that one infusoria were present. The disease, as a rule, progressed rapidly. Hemorrhages were frequent, retinal in 3 cases.

Dr. Frederick P. Henry, of Philadelphia, reported 5 cases of pernicious anemia in a paper entitled, *Clinical Notes on Cases of Pernicious Anemia.* In one of the cases, the transfusion of blood from an epileptic patient was followed in ten days by convulsions. One case had been under observation six years, and was completely restored to health. In this patient, naphthalin, bismuth salicylate, Fowler's solution, codliver oil, and calomel were the drugs used. The author thinks that patients suffering from pernicious anemia often present peripheral neuritis. He also thinks that the disease is likely to be complicated by erysipelas. In a case of gastric carcinoma, he has never seen a case in which the red blood-corpuscles were reduced below 30 per cent., and therefore he thinks that a reduction in the number of red cells below this figure is a

diagnostic feature in pernicious anemia. He is of the impression that the muscular system preserves its power. He believes that the corpuscles seen in the blood in this disease are reversions to the type of those seen in the cold-blooded animals. Dr. Richard C. Cabot said that he did not consider the case that Dr. Henry reported as having recovered to be a case of pernicious anemia; he should consider it a case of grave secondary anemia of unknown cause. Dr. A. McPhedran reported two cases of permanent recovery from pernicious anemia. He believes in saline infusion as a method of treatment. In one case he administered antidiphtheritic serum because there was no other serum obtainable. The patient so treated remained well for one and a half years, but then died. Other patients have received blood-serum. He has looked for diseased teeth and gums in many of his patients, and all have healthy gums except one. In the excepted case the gum-condition gets worse with the exacerbations of the disease. Dr. S. Weir Mitchell said that all blood-counts were relative and not absolute. He called attention to the work of Dr. J. K. Mitchell on the influence of massage on the blood-count. After one-half or one hour of massage, the red cells increase 500,000. He thinks that the stagnation of the red blood-corpuscles in various parts of the body is greater in disease than in health, and he is of the opinion that disturbing these reserve corpuscles by massage would greatly change the blood-count. Dr. Charles G. Stockton said that he had always found that the gastric secretion in pernicious anemia was different from that obtained from cases suffering from secondary anemia. In the former disease, the hydrochloric acid always disappears during the exacerbations of the disease, and it returns during the remissions.

Dr. F. B. Mallory, of Boston, read a paper on *Proliferation and Phagocytosis.*

Dr. W. S. Thayer, of Baltimore, read a report of *Cases of Diarrhea, Associated with the Presence of Strongylides Intestinalis in the Stools.* He reported two cases.

Dr. W. T. Councilman, of Boston, reported for Drs. Lothrop and Pratt *A Case of Filaria with Specimens of the Adult Parasite.* The patient was a male, aged twenty-two years, who had resided for some time in the Barbadoes.

Dr. F. F. Westbrook read a paper for himself and Drs. Wilson and McDaniel, entitled, *Varieties of the Diphtheria-Bacillus.* The classification of the diphtheria-bacillus is based on the morphology of the individual bacilli. Three classes are recognized: 1. Granular forms, with granules in the body of the organism that are metachromatic. 2. Barred forms. 3. Solid color forms, including those that look like diplobacilli. In pure cultures all three forms may be found.

Dr. Wm. H. Park, of New York, read a paper on *The Elimination of Deleterious Substances from Antitoxic Sera.* That the antidiphtheritic sera contain some deleterious substance is shown by the development of rash, fever, and joint symptoms after its use in certain cases. Filtering and antitoxin serum has no effect on these substances. Heat has no effect upon them. Bleedings from some horses have given rise to sera that produce far less complications than bleeding from other horses, and bleeding from the same animal gives rise to sera of varying deleterious contents at different times.

Dr. W. W. Johnston, of Washington, presented a *Case of Addison's Disease under Treatment with Supra-renal Extract.* The patient was a male, a farmer, in whom the symptoms had appeared suddenly with loss of flesh, weakness, and gastrointestinal symptoms. Pigmentation appeared later and was accompanied by exhaustion, vomiting, purgation, and was progressive. The blood was apparently normal. The symptoms became worse in the summer and improvement was noted in the winter. The patient is being treated with suprarenal extract with rapid improvement.

Dr. William H. Welch, of Baltimore, read a paper, entitled, *Venous Thrombosis as a Complication of Cardiac Disease.* Distinct venous thrombosis is not usually recognized as a complication of cardiac disease. He recorded four personal observations. In the first the patient was a woman, aged seventeen years. She had aortic and mitral insufficiency. During the course of the disease hard edema of the left arm developed, and at autopsy adherent pericardium was noted and thrombosis of the innominate, the internal jugular, the exterior jugular, the subclavian, and the axillary veins of the left side. The oldest part of the thrombus was in the lower part of the internal jugular vein and in the innominate vein. Cultures from the body of this patient were sterile, except those made from the lung and the thrombus; these gave the streptococcus pyogenes. The second case was in the person of a woman, aged thirty-five years, who was suffering from mitral stenosis. The left side of the neck became swollen in the line of the internal and the external jugular veins; later the left arm became swollen and a thrombosed axillary vein could be felt. The collateral circulation was established and the symptoms disappeared. Later the patient had an embolus lodge in the popliteal artery, from which she also recovered. The third case was that of a boy, aged sixteen years, who had mitral and aortic insufficiency. The left arm became markedly edematous and worse than the right, which was also swollen. The left axillary vein was thrombosed, as well as the lower part of the internal jugular vein. The boy died, but there was no autopsy. In the fourth case the patient was a man, aged seventy-eight years. He had

mitral insufficiency with thrombosis of the left femoral vein, and recovered.

Dr. Simon Flexner, of Philadelphia, read a paper on *The Nature of the New Tissue in Cirrhosis of the Liver, and its Distribution.*

Dr. R. H. Fits, of Boston, reported a case of *Cystoma of the Pancreas.* The tumor was a multilocular cyst of the pancreas.

Dr. Charles Cary, of Buffalo, reported a case of *Degenerated Echinococcous Cyst of the Pleura.* The patient had what seemed to be chronic pleuritis. He had always lived with dogs until the age of twenty-one years, but he had never been out of the United States.

Dr. Alfred Stengel, of Philadelphia, reported a case of *Aneurysm of the Aorta with Rupture into the Superior Vena Cava, recognized During Life.* The patient was a man, aged thirty years, who developed a murmur similar to that already reported in a similar case. The patient lived for twenty-four days, and finally died in a convulsion.

Dr. Beverly Robinson, of New York, read a paper, entitled, *Minor Forms of Cardiac Dilation.* Two classes of patients, particularly, are likely to present mild attacks of cardiac dilation: (1) anemic girls just past the age of puberty, and (2) obese women, married or unmarried, between forty and fifty years of age.

Dr. W. H. Thomson, of New York, read a paper, entitled, *Graves' Disease Without Exophthalmic Goitre.*

Dr. M. Howard Fussell, of Philadelphia, read a paper on *Perichondritis of the Larynx in Typhoid Fever, with Exhibition of a Patient and a Specimen.* He showed the specimen from a fatal case and exhibited a patient who recovered after tracheotomy. This patient wore the tube for six months. The cricoarytenoid joint in this patient is ankylosed. The complication is rare.

Dr. H. A. Hare, of Philadelphia, read a paper on the *Attitude of the Physician and Surgeon to Appendicular Symptoms Complicating Typhoid Fever.* There is great difficulty, in the early stages of acute disease, in which there are symptoms that refer to the appendicular region in diagnosing between appendicitis and typhoid fever. The author thinks that the absence of leucocytosis is an indication that a given case is not one of appendicitis. The absence of leucocytosis, however, is not pathognomonic.

Dr. Ira Van Gieson, of New York, read a paper, entitled, *Observations on Appendicitis.* He thinks that the tortuous blood-supply of the appendix predisposes it to undergo retrograde and obliterative changes. He thinks that the attacks of appendicitis are the result of the evolution of the species, providing for a race in which the appendix will be absent. Attacks of appendicitis

are predisposed to by these obliterative changes. Acute appendicitis is not an accident, but is a factor in natural selection. If the appendix was to be removed as soon after birth as is safe, the individual would probably be benefited, but the process of natural selection would be delayed.

Dr. Norman Bridge, of Los Angeles, read a paper, entitled, *Some Observations on Human Temperature in Disease.* He thinks that a temperature of 102 degrees is not dangerous. Free catharsis at the beginning of a fever may relieve the gut of ptomaines and thus benefit the condition; but it is doubtful that it reduces fever. He does not believe in the use of antipyretics or of aconite to reduce temperature, but thinks that the secret of treatment is pointed to by the results of the injection of antidiphtheritic serums.

Dr. J. K. Mitchell read a *Story of a Mummy Affected with Infantile Paralysis.* The mummy had one leg shorter than the other, with no sign of fracture. The pelvis was perfectly formed, and the vertebral column presented no sign of compensatory scoliosis. The author thinks that this indicates the wearing of a high-soled sandal. He thought that the defect in the development was due to a poliomyelitis that might have been intrauterine.

Dr. Robert T. Edes, of Jamaica Plain, showed a *New Modified Sphymograph.*

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-Fifth Annual Meeting, Held at Washington, D.C., May 1st, 2nd and 3rd, 1900.

The Society was called to order by the President, Dr. George J. Engelmann, of Boston, Mass., and the address of welcome was delivered by Dr. Joseph Taber Johnson, of Washington, D.C.

The first paper read was by Dr. William P. Pryor, of New York, on *An Operation for Primary Vaginal Carcinoma, Applicable also to Cancer of the Rectum in Women.* Primary cancer of the vagina is a rare form of malignant disease. It is usually situated on the posterior vaginal wall and extends rapidly towards the rectum and perivaginal tissues. The cancer is prone to spread by invasion of the tissues having common sources of blood, and any successful operation must seek the removal of all the organs belonging to the vascular group in which the affected organ is placed. It also recurs locally. In Lowenstein's case recurrence took place after three and a half years. In both of Pryor's cases, it recurred within one year. The operation of Olshausen con-

sisted in a blunt dissection of the vagina from the rectum, which usually resulted in failure and early recurrence. Pryor reported two cases, the first, cancer of the rectum and vagina, ulcerated and infiltrated, involving the posterior vaginal wall one and a half inches. The second, cancer of the vagina, occurring one inch below the cervix on the posterior vaginal wall. The operation employed by Pryor has the distinct advantage of removing as thoroughly as possible all the diseased area. After the usual preparation of the patient an incision from the pubis to the umbilicus is made and the internal iliac arteries and the obturator vessels are ligated with kangaroo tendon, the bladder is dissected from the anterior uterine wall and the vagina opened anteriorly. The uterus and appendages with the entire rectum are later removed after the actual cautery has been used to char the cancerous mass. After the excision of the rectum and periproctal tissue, an artificial anus is formed near the normal site. This radical operation has a surgical basis in the following principles: (*a*) The preliminary and preventive hemostasis renders the field of operation comparatively dry, and there is less danger of transplantation of cancer cells during the subsequent manipulations; (*b*) avoidance of injury to the cancerous field until hemostasis is secured and the cancer charred; (*c*) there is removal of all organs in which recurrence is apt to take place from above downward; (*d*) establishment of an artificial anus near the normal site.

Dr. I. S. Stone, of Washington, read a paper on *Fecal Fistulas.* Small fistulas in healthy bowel heal spontaneously. If persistent they are usually due to diseases of the bowel, or obstruction. The various operative procedures for the relief of this annoying condition were considered. Lateral anastomosis is applicable in some cases. The sigmoid flexure and rectum are frequently injured in the enucleation of the tubo-ovarian abscesses, etc. Stone reported two cases successfully operated upon, and detailed the method used.

Dr. W. L. Burrage, of Boston, read a paper on *The Remote Results of Conservative Operations on the Ovaries and Tubes.* He had had 137 operations, which were performed on diseased uterine appendages, with the object of preserving one or both ovaries, with their tubes, or as much of the tubes as were reasonably normal in appearance. In 85 of these, reliable information as to the present condition could be obtained at least a year after operation, and the results included in the tables accompanying the paper, the cases being divided into the more severe and the less severe. In comparing the two it was found that gonorrhea and syphilis were more prevalent, and that the symptoms had resulted more frequently from difficult labors or abortions among the more severe, and that the tubes were closed in a majority of the more severe, whereas they were open in all but four of the less severe.

Pregnancy followed operation in four of the more severe, and in eleven of the less severe. In none of the cases when the closed tubes had been opened and new ostia formed did pregnancy follow operation. All of the cases of subsequent pregnancy in both classes, except two of the less severe, had had previous pregnancies. Anatomical cure was recorded in 33 out of 57 cases who came under observation, and symptomatic cure in 60 out of 85. The writer's conclusions were that it is advisable to do conservative operations in all cases when the ovaries and tubes are not hopelessly diseased in all parts of their structure, except on patients who are near the menopause; on patients who have pronounced gonorrhea of long standing; and on cases of malignant disease.

Dr. A. W. Johnston read a paper on the *Internal Secretion of the Ovary.* There is no proof that the ovary has any function other than the manufacture of eggs. It is in no sense a gland. It is incorrect to compare it in any way with the thymus, thyroid, or other glands. He considers that if the cause of nervous phenomena in a woman was the lack of internal secretion, the girl prior to puberty or the woman with delayed menstruation would have similar phenomena.

Dr. Hiram N. Vineberg, of New York, read a paper on the *Technic, Indications, and Ultimate Results of Suturing the Round Ligaments to the Vaginal Wall for Retroversions and Flexions of the Uterus.*

A paper on *A Comparison of Vaginal and Abdominal Operations,* by Dr. G. Richelot, of Paris, was read by title.

Dr. J. Clarence Webster, of Chicago, presented a series of *Casts, Illustrating the Anatomy of Pregnancy and Labor, also Models used in Gynecologic Teaching.* The older textbooks on obstetrics are full of fallacies and errors on this subject, and these casts are prepared in exact reproduction of nature, made directly from frozen sections of the cadaver. The method of their preparation was described and attention called to their value scientifically and as teaching adjuncts. Dr. Buckmaster has employed paraffin to secure representations of the pelvic organs, and has illustrated the steps of perineal laceration operation by this method.

Dr. Reuben Peterson, of Chicago, presented a paper on *Anastomosis of the Ureters with the Intestines; An Historical and Experimental Research.* The paper was illustrated by numerous drawings and photo-micrographs.

The subject of the next paper, by Dr. Howard A. Kelly, of Baltimore, was *The Evolution of my Technic in the Treatment of Fibroid Uterine Growths.* Dr. Kelly, with the aid of drawings and photographs, detailed his method, particularly in dealing with very difficult cases, such as large adherent tumors or intraligamen-

tous fibroids. There are three ways of dealing with these tumors and meeting the complications: (1) By a median sagittal bisection of the uterus with the tumor. (2) By a coronal bisection of the uterus in the cervical portion. (3) By a bisection of the tumor alone. The situation and anatomic relation of the tumor should be thoroughly studied after the abdomen is opened, before beginning operation. The dangers to be avoided are brought about by atypical cases; the hemorrhage may be excessive and uncontrollable, prolonged operation and injuries to the intestines and ureters may jeopardize the patient. In all these cases the principle of the operation is the same, and the best method of enucleation is to seek out first, isolate and ligate the ovarian vessels of *one* side, then to expose and tie the uterine vessels of the *same* side, then to cut across the cervix and clamp the opposite uterine artery, then the round ligament, and lastly the ovarian vessels.

Dr. George J. Engelmann, of Boston, read the annual President's address. The subject of the paper by Dr. A. Lapthorn Smith, of Montreal, was *An Appreciation of Kelly's Method of Removing Fibroids of the Uterus.* Smith had formerly been strongly opposed to operative treatment for fibroids, because of the high mortality then prevailing among best operators, but the ideal method perfected by Kelly had led him to adopt this as the method of preference. He detailed the salient features of this procedure and considers that the great advantage is that there is much less danger of injuring the ureters. He laid great stress upon the importance of feeling for each individual artery and tying it before cutting it, and then putting a second ligature on it, as the first may be loosened after the tension of the tumor has been removed. Chromicized catgut is employed. He opposes leaving the tubes and ovaries remaining after hysterectomy, and he believes that sooner or later they will cause trouble. Hysterectomy is far more preferable than myomectomy, except in case of a single polypus. All fibroid uteri should be removed as soon as discovered, because the woman with a fibroid is liable not only to hemorrhage, but to suffer from reflex disturbance of digestion and circulation. Besides, every day its removal is becoming more dangerous and the chances of its becoming malignant greater. The writer strongly condemned the vaginal morcelment, as the operation is carried on in the dark, and the ureters frequently wounded, while complications such as adhesions of the vermiform appendix and tears of the intestine, which are easily dealt with by the abdomen and with the patient in the Trendelenburg position, are almost impossible to manage upon working from the vagina.

Dr. F. H. Davenport, of Boston, described an *Intra-abdominal Amputation of the Uterus; a Modification of Hysterectomy.* In

cases of cancer of the cervix or body of the uterus he employs the vaginal hysterectomy, but in non-malignant conditions, even in small growths, particularly in young married women, he prefers supravaginal hysterectomy, permitting the cervix to remain. After careful study of the technic he thinks that not only the cervix but even part of the lower uterine segment may be left without ligating or disturbing the uterine artery, by doing a high amputation of the uterus. He first clamps the broad ligaments and divides them, then divides the uterus high up, having a curved needle armed with silk, introducing a continuous suture, controlling the bleeding as he cuts; later the clamps are removed and the ovarian vessels are ligated. The organ being removed above the vesicouterine peritoneal fold, there is practically no danger of injury to the ureters or bladder.

Dr. Thaddeus A. Reamy, of Cincinnati, contributed a paper on *Bronchial Disease not Invariably a Contraindication for Ether-Anesthesia in Abdominal Surgery.* His personal experience with surgical anesthesia covers 8,000 cases. For surgical work he considers ether in every way preferable as an anesthetic. He has, however, never lost a patient under either ether or chloroform. The prejudice against the use of ether in the presence of acute, subacute, or even chronic bronchitis, is largely unfounded, provided proper conditions are observed in its administration.

Dr. Archibald McLaren, of St. Paul, read a paper on *The Relationship Between Dysmenorrhea and Appendicitis.* He spoke of the unsatisfactory results usually obtained in the treatment of dysmenorrhea and the necessity for prolonged general treatment. Pelvic inflammation is frequently the cause of dysmenorrhea, and appendicitis causes disease of the appendages, and the appendix is frequently found adherent to the right appendage. In many cases appendicial colic is caused by the pelvic congestion at the menstrual period. The pain is principally on the right side and the symptoms are relieved by removal of the appendix.

Dr. Philander A. Harris, of Paterson, N.J., demonstrated the utility of a certain *Chart for the Determination of Pelvic Asymmetry from a very Simple Method of External Pelvimetry.* He exhibited the instrument employed and urged the more frequent use of the pelvimeter.

Dr. Malcolm McLean, of Detroit, read *A Contribution to the Management of Face Presentations, with Report of Two Cases.* He reviewed the methods of dealing with the head thus faultily placed. Schatz had advised converting the face presentation into a vertex while the head is free above the superior strait and the membranes are unruptured; but there are usually two difficulties to contend with: (1) The diagnosis of the malposition is not so easy as the textbooks indicate, and if descent is far advanced it is

too late to employ Schatz's method; (2) it is difficult to secure the normal position, and relapse to the abnormal is apt to occur.—Digest from *The Philadelphia Medical Journal.*

THE SECOND QUARTERLY MEETING OF THE PROVINCIAL BOARD OF HEALTH.

The Second Quarterly Meeting of the Ontario Provincial Board of Health began at 2 p.m., May 8th, at Dr. Bryce's office in the Parliament Buildings. The new chairman, Dr. Vaux, occupied the chair. The other members present were: Dr. Cassidy, Dr. Kitchen, Dr. McCullough, Dr. Oldright and Dr. Bryce, the Secretary of the Board.

In addition to some business of minor importance, the quarterly report of the Committee on Epidemics dealt specially with the Essex epidemic of smallpox, and a federal quarantine at Windsor was recommended.

This section of the report reads:

From October, 1898, smallpox has been brought into this province from Michigan, directly or indirectly, as follows:

1898—Kent, Camden, 1; Chatham, 1.

1899—Essex, Colchester Township, 1; Walkerville, 1; Sandwich, 1.

1900—Essex, Amherstburg town, 1; Malden township, 1; Mersea township, 1; Sandwich East, 1; Walkerville, 1.

1900—Middlesex, Caradoc township, 1; Sarnia, 1; Mosa township, 1; Lobo township, 1.

It thus appears that within a period of eighteen months fourteen (14) distinct introductions of the disease into Ontario from Michigan have taken place, occasioning outbreaks in twenty municipalities. What some of these outbreaks have cost is illustrated by figures obtained from returns made by the local boards of several municipalities. A rough estimate would place the expenditure of these several municipalities at $10,000.

While it is satisfactory, indeed, to know that the disease has, with so many opportunities to spread, been stamped out in so many outbreaks, and that with the exception of cases introduced from the west coast, causing outbreaks, there is no smallpox at present in the Province, it is apparent that inasmuch as our border municipalities must always bear the brunt of such outbreaks, and their consequent expense, the question of what part the quarantine authorities might perform in preventing such outbreaks, or if not preventing, at any rate supplying hospital facilities as at the seaports for caring for them, is a pertinent one. The seaports

quarantined are fully organized and equipped, while Customs' officers are charged with nominal powers as quarantine officers at various ports of entry.

It is understood that a quarantine medical inspector is quartered at Emerson, the entrance to Manitoba, for dealing with cases of smallpox; but so far Ontario receives no assistance, although the danger from the number of travellers is manifestly much greater than in the West.

It would seem proper that the matter should receive further attention through the proper official channels, should the Board so recommend.

The Board adopted these clauses of the report, and the matter will be urged upon the Director of Public Health at Ottawa.

The report on tuberculosis showed that while there was a slight decrease on the total for the same quarter in 1899, nevertheless 558 deaths from pulmonary consumption occurred, as compared with 254 from all other contagious diseases. It was found to be especially prevalent in persons working at certain trades, such as stone-cutting and tool-grinding.

Pursuant to the report, the Board adopted the following new regulations for the guidance of the physicians and the public generally:

Moved by Dr. Cassidy, and seconded by Dr. Bryce,

"That as tuberculosis is a contagious and infectious disease, all inmates of provincial institutions, and of those receiving Government aid, should be isolated in rooms or wards set aside for such patients, and be not permitted to associate with other inmates.

"That when rooms or wards which have been occupied by consumptive patients become vacant they should be disinfected according to the prescribed regulations.

"That an individual affected with tuberculosis who is living in a private family should be isolated as much as possible from the other members of the household, especial care being taken in the destruction of his expectoration.

"That when the room occupied by such a patient becomes vacant it should be thoroughly disinfected, and as a matter of precaution the whole dwelling should be disinfected, according to the regulations of the Public Health Act.

"That local Boards of Health be urged to establish rules for notification of tuberculosis to the Medical Health Officer of the municipality."

It was further moved by Dr. Oldright, and seconded by Dr. Cassidy, that a circular prepared by the Committee on Epidemics containing the Act relating to the establishing of sanatoria be sent out to physicians, clergymen, and municipal councillors. This was also carried.

The Board reassembled at 10.30 a.m., May 9th. The question of lump jaw in Canadian cattle, principally in animals intended for export, came up through the presentation of correspondence in connection with the Montreal officials in sending back to the consignor at Prescott, Ont., a number of animals so diseased. Instructions were given that the animals in which disease was discernible should be killed, and, if necessary, the whole herd destroyed. The Board proposes that a greater stringency shall be exercised hereafter in the interest of Canada's export trade.

The Health Officer at Fort William asked for advice on the regulation of tuberculosis. He recently ordered that a child afflicted with tubercular glands should remain away from school, and his action was opposed. The Board decided to uphold the physician, and it was pointed out that the courts had already decided that persons suffering from tubercular affections could be subjected to regulations in the public interest.

The following Committees were appointed: Epidemics, Dr. Cassidy, Dr. Bryce, Dr. Oldright. Water Supplies, Dr. Vaux, Dr. Bryce, and Dr. McCullough. Sewerage, Dr. Kitchen, Dr. Bryce, and Dr. Vaux. School Hygiene and Ventilation, Dr. Cassidy, Dr. Oldright, and Dr. Bryce. Legislation and Publication, Dr. McCullough, Dr. Cassidy, and Dr. Bryce. Foods, Drinks and Poisons, Dr. Kitchen, Dr. Bryce, and Dr. Oldright.

The Board also discussed a communication from Mr. Davis, of Berlin, stating that the Council of that town had approved of the method of constructing septic tanks for decomposing sewage, as an addition to the sewage farm works. The Board passed a resolution endorsing the principle of thus treating the sewage, and granted permission to the Council to proceed with the additional works necessary, the Board's final approval to be dependent upon the results of the experiment.

It was announced that the next quarterly meeting would be held in Kingston. The Board then adjourned.

Canadian Medical Association.—As the time draws nearer the prospects for the Canadian Medical Meeting in Ottawa, on Sept. 12th, 13th and 14th, grow brighter every day. The fact of there having been a large fire in that city recently has spurred the profession of Ottawa to even greater deeds than they at first thought of. Every little while we hear of some more prominent men who will attend and contribute to the programme. It is now certain that, in addition to Mr. Edmund Owen, of London, Eng., Dr. F. Shattuck, Professor of Clinical Medicine in Harvard, will address the meeting. It is also expected that Drs. Nicholas Senn, of Chicago, Allen McLane Hamilton, of New York, and Gerster, of New York, will be present. The address on Gynecology will be delivered by Dr. Wm. Gardner, of Montreal.

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF FEBRUARY AND MARCH, 1900.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

FEBRUARY, 1900.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,205,266	720	1,962	10.6	14	0.07	39	0.2	7	0.04	3	0.01	13	0.07	186	1.0
97%	93%														

MARCH, 1900.

2,153,880	727	2,330	12.4	23	0.1	34	0.2	22	0.1	7	0.04	16	0.09	188	1.0
96%	93%														

Population of Province 2,283,182

Registration Divisions of Province..... 777

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

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Editorials.

SANATORIA FOR INEBRIATES.

Now that the Ontario Government has passed an Act, providing for the establishment of sanatoria for consumptives, it would be in order to advocate asylums for inebriates, which might be established and maintained in a similar manner. To explain this remark, we may say that the Council of any county in Ontario might take the initiative, or a group of municipalities or counties

can unite for the purpose of erecting sanatoria for consumptives. The management and control of the institutions is to be in the hands of trustees elected by the municipalities. The Lieutenant-Governor in Council can grant one-fifth of the sum expended on the site, buildings and equipment, the sum for such a purpose not exceeding $4,000. The municipality would be obliged to pay $1.50 per week for each patient whose admission was approved, and a similar sum might be paid by the Lieutenant-Governor in Council out of any moneys set apart by the Legislature for the purpose. We think that a greater measure of success could be obtained in reclaiming inebriates, if selected cases were submitted to treatment rather than if an attempt were made to cure all kinds of such patients. The term "selected cases" is used advisedly, because we think that such persons only should be treated as wish to be cured of their infirmity. Many persons of this class, when cured of their craving for alcohol, stay cured.

There is another class of inebriates, however, who appreciate the process of cure, but who lack the desire to remain cured. To treat such patients for the effects of a drunken bout is easy enough; to prevent them from relapsing into inebriety is scarcely possible.

Apart from their dietetic errors and the inevitable results, many inebriates require prolonged medical treatment to help break up the vicious habits upon which alcoholic indulgence is often engrafted, and such treatment requires isolation, dieting, hygiene, and the use of medicinal preparations, in fact, a programme which can be put into operation in a special asylum with the greatest chance of success. Besides, it is now conceded by the best medical authorities that inebriates should be treated in special asylums. Speaking from personal experience, we would say, that in a general hospital the treatment of a selected class of inebriates would be difficult, as all classes of inebriates in such an institution only receive treatment for their immediate necessities, or until convalescence may have appeared.

Nowadays, however, the treatment of inebriates is more carefully systematized. Those who wish to co-operate with the physician are treated for a considerable time, while inebriates who delight in their relapses, are not expected to remain sober, and do not by their subsequent escapades cause very serious disappointment to their friends or the attending physician.

A well-to-do inebriate can, of course, resort to a private asylum at his own expense; but the poor inebriate, who is often sent to gaol, is made to herd with criminals, so that he sinks lower and lower in his own respect, as well as in that of his neighbors.

Would it not be well, therefore, if an asylum were provided for him, where physicians and nurses could look after him instead of gaolers and turnkeys, and would there not be a greater chance of his regaining the power of controlling himself if his self-respect were appealed to in a hospital rather than in a prison? The starvation diet of a gaol may suit the acute stage of alcoholism; but nutritive and easily-digested food is required to repair the damages to injured organs at a later stage of the disease. Such a diet, together with appropriate tonic and reconstructive treatment, can be best administered in a special asylum for inebriates.

The educative effect of a more or less prolonged stay in such an institution, under the moral influence of a kind and scientific superintendent, must also be looked upon as one of the most potent agents in the question of cure.

In North Dakota, a magistrate is empowered to commit an inebriate to a Keeley Institute instead of sending him to gaol, and the prisoner has the option of repaying the money spent in his behalf at the institute, a privilege of which seventy-five per cent. of these persons avail themselves. Reasoning by analogy, therefore, there is strong reason to think that if selected inebriates were committed to sanatoria for inebriates by our magistrates, the experiment would not be costly and the proportion of lasting cures considerable.

For people who take drink to excess, simply because they love it, and who repeat the offence, reformation is generally out of the question, and after they become dangerous to society, and perhaps criminal, the question of restraining their personal liberty becomes urgent.

A government, although paternal in its dealings with inebriates, should not hesitate to restrain a man's liberty when it is done in the interests of society, the family and the individual. When liberty is abused it degenerates into license, and the offending individual must be governed, until he is capable of exercising self-control. Whatever view may be held on the question of restricting the liberty of the inebriates, all will agree that an effort should be

made to assist poor inebriates, who, if medically treated in special asylums, would be placed in the best possible position to regain their health, and particularly their lost power of self-control.

Looking at the question of inebriety from the standpoint of medicine, we think, therefore, that the Provincial Government should be urged to do as much for the curable inebriate as they have shown themselves willing to do for the consumptive.

J. J. C.

SOME ERRATA IN AN ARTICLE ENTITLED "ARABIC MEDICINE."

An article by J. S. Tunison, entitled "Arabic Medicine," appeared in the *Lancet-Clinic* of Cincinnati, and, by request, in the *Indian Lancet,* Calcutta. It contains many references to the scanty sources of instruction available to students during the middle ages, particularly the manuscript writings of Greek physicians and philosophers. We propose to criticise some of the statements made by the author, which are incorrect. Alluding to lack of scholarship among the Arabs, he says: "They had no original turn for science;" and again, "The Arabs were in touch with Greek science from the time when Justinian banished the last of the pagan Athenian sages to Persia. If there had been any growth and continuity of scholarship among them, they would have improved steadily, and there would have been among them everywhere men who knew Greek. During one of the most brilliant periods of the Moorish rule in Spain, there was not a man in the whole kingdom who could translate a treatise of Dioscorides. This was about the middle of the tenth century, when the Moors became important enough in the international politics to require an exchange of embassies with Constantinople. Among other gifts, the Greek Emperor sent a manuscript of Dioscorides. When it was found that nobody in Cordova could read the work, the Emperor sent a Greek monk, who understood Latin, and the Cordovans having found a Jew who understood Latin also, these two translated the book, with the aid of a crowd of Moorish doctors, who supplied the Arabic names of the medicines which Dioscorides had described."

The inference to be drawn from this ludicrous narrative is that

the Moors of Cordova were at that period ignorant of Greek literature, and yet in the history of Cordova under Abderahman III. (A.D. 912-961), we read the following ("History of All Nations," Vol. II., page 834, by S. G. Goodrich): "The opulence of this flourishing kingdom was so great that the governors of the provinces and the judges vied with the king himself in the magnificence of their palaces and gardens; like him, they were surrounded by artists, poets, philosophers, and others, who were distinguished by their superior talents; and these they entertained in the most sumptuous manner. Many public libraries and academies for science and literature were established in all the great towns. At this period, also, when the practice of medicine was almost unknown elsewhere, the physicians of Cordova were held in such high estimation that princes came to the Court of the khalif to be cured of disease."

Even if there were not any Greek scholars in Cordova "about the middle of the tenth century," Goodrich says in the chapter of his work devoted to the Moorish Kings of Cordova, "Alhakem, the next King (A.D. 961), was averse to war, fond of tranquillity, and immoderately attracted to literature. His agents were constantly employed throughout the East in purchasing scarce and curious books; he himself wrote to every author of reputation for a copy of his works, for which he paid royally; and whenever he could not purchase a book he caused it to be transcribed. His reign is the Augustan age of Arabic literature in Spain."

But even admitting that the Cordovan Moors of the middle of the tenth century had no man among them learned enough to translate a Greek manuscript, what was the educational status of the Oriental branch of the race? In Cours Elementaire de Philosophie par M. L'Abbe E. Barbe, p. 634, we read: "The study of philosophy among the Arabs dates chiefly from the end of the eighth century, or during the reign of the khalif Al-Mansur, who was the founder of Bagdad. This prince, and two of his successors, Haroun-al-Raschid and Al-Mamoun, were protectors of literature, caused the writings of several Greek writers to be translated into Arabic, and founded libraries and public schools, among which the school of Bagdad held the highest rank. Later on, the school of Cordova was founded, which flourished up to the thirteenth century. It was from the school of Cordova that the works or Aris-

totle, and some other writings of antiquity, found their way into France and other parts of Europe."

Among the Western Arabs, or in the school of Cordova, the following distinguished men are mentioned: Avempace, who strove to reconcile Islamism with philosophy; Thophail, of Cordova, who died at Seville in 1190, and Averrhoes, his disciple, who was born at Cordova and died in Morocco about the beginning of the thirteenth century. Averrhoes translated the works of Aristotle into Arabic, and wrote commentaries on them."

Here is another excerpt from Mr. Tunison's article: "About a century earlier, John Erigena, a Scotchman, at the court of Charles the Bold, got hold of the suppositious writings of Dionysius the Areopagite, and translated them without any help from Constantinople or elsewhere."

Now, admitting that by "Charles the Bold" is meant Charles the Bald, a grandson of Charlemagne, it is not fair to say that Erigena "got hold" of the suppositious writings of the Areopagite, just as though he were a Norman freebooter robbing a monastery. On the contrary, Barbe says of him: "Skilled in the knowledge of Greek, something extraordinarily rare in these ages of ignorance, Erigena translated into Latin for Charles the Bald the writings of Dionysius the Areopagite, which had been sent to Louis the Mild by the Emperor of the East."

Moreover, Erigena was not a Scotchman. As his name implies, he was a native of Erin, which was also called Scotia, whence he probably acquired the name "Scot." He was summoned as a distinguished scholar to the court of Charles the Bald, king of France, and in his subsequent writings constructed a system of philosophy, which was really astonishing for the epoch in which he lived. J. J. C.

THE MEDICAL SCHOOL OF THE FUTURE.

An editorial under this caption appears in a recent issue of the *Philadelphia Medical Journal*. Strange! but can it be possible that at a point so distant from Toronto even as the City of Brotherly Love, it got noised about that a little "difference" had arisen recently between the two principal teaching bodies in medicine in the Province of Ontario? The sentence, which we have italicised, would

seem rather to lead one to think so. The editorial goes on to say: "The present progress of medicine is so rapid that new points of view are constantly being secured, and such new suggestions should be carefully noted. One of the most healthful signs of the times is the growing tendency of the better schools to ally themselves to universities and of universities to establish medical departments. *It is difficult to see how a private medical school of the joint-stock-company type can ever in the future rise to the first rank, for such a school is not more likely to attract endowments than a cotton mill, and without endowments the enormous expenses of a modern first-class medical school can not possibly be met.* This change, we may reasonably hope, will be associated with a diminution of the total number of medical schools now so greatly in excess of the needs of the country. Professor Bowditch believes in the desirability of a literary college course as a preparation for medical study, and to avoid the student's getting into practical life too late, when such a literary course is taken, three methods have been devised: the reduction of the academic course to three years; the provision in the academic department of courses which partly anticipate professional work; and the permission of counting the first year of a professional course as the fourth year for the bachelor's degree. President Eliot, of Harvard, believes that in a short time the majority of men will complete their academic courses in three years. Another matter which is essential to any important advance in medical education is a distinction between those studies which should be absolutely demanded and those studies which it is desirable that certain students should know; that is to say, the introduction of elective studies in the medical courses. In the future the laboratory method of instruction will be greatly extended and students will be trained to get their knowledge as far as possible by the direct study of natural phenomena, but the didactic lecture, though reduced in importance, will not be displaced from its position as an educational agency. The work of the students will probably be so arranged that their attention will be concentrated upon one principal subject at a time, and these subjects will follow each other in the natural order. Examinations will be so conducted as to afford a test of both the faithfulness with which a student performs his daily work and of his permanent acquisition of medical knowledge, fitting him to practise his profession."

These suggestions are of the greatest importance for the future of American medicine ; the introduction of the university idea, the laboratory method of instruction, the practical examination to test the student's real fitness for practice; and even the Harvard arrangement of courses in due sequence, are all apparently past the experimental stage. Every member of the profession should use his influence to support such schools as are working for these ideals, and the entire profession, through its societies, should organize to support such schools and to use the profession's best influence to crush the inefficient diploma-mills which exist in such numbers in almost all parts of our country. Aside from the more ideal motive of striving for that which is best in medical progress, there is the very practical motive which must appeal to every practitioner, that the profession is daily becoming more and more crowded with inefficient men. According to the Bulletin on Professional Education of the University of New York, there is already one doctor to about six hundred inhabitants in most sections of the country, and if this increase continues, an honorable living in the medical profession will be almost impossible.

ALAS! HOW SWIFTLY THE YEARS GLIDE BY.

Nature has a great influence over our feelings. On a bright summer morning how beautiful the world seems; how blue the sky, how sweet the song of the birds, how fresh and green the grass, with the dew-drops, the stars of morning, shining on every blade. The flowers—the blushing rose, the timid violet, the sweet-scented mignonette, all nod their graceful heads to attract the mellow sunbeams, and contrast prettily with the tall dark-foliaged trees. We go about gaily on a day like this, with full hearts, praising God and thanking Him for placing us in such a lovely world. But the memory of bleak December winds, of leaden skies, of faded flowers, of naked trees and barren plains, comes like a blight upon the present beauty. Death is the end of all—all that is lovely in nature must wither and crumble into nothingness. And so it is with man. Even he must die. It is his fate, he cannot escape it. Let him fly to the uttermost bounds of the earth

and Death, nimble-footed, swift-winged, will follow close upon him. Let him pierce the depths of the ocean or hide in the bowels of the earth, yet Death, impassible and omnipresent, is awaiting him. There is something relentless and inevitable about this enemy of man. No treasure can bribe him, no beauty charm him, no strength conquer him. He feels no sympathy for human suffering, no tenderness for human passion. He is impartial in his choice of victims; the mighty ones of earth—men of genius, patriarchs and seers, the poor and abject, all mingle in one mighty sepulchre. Truly it has been said, "Death is a black camel, which kneels at the gates of all."

A. D. C.

EDITORIAL NOTES.

Hemostatic Properties of Peroxide of Hydrogen in Metrorrhagia.—Dr. Platon, in *Marseille Medical*, January, 1900, recommends the use of peroxide of hydrogen in metrorrhagia, the injections being made by means of Braun's syringe. He injected 4 c.c. (1 drachm) of peroxide of hydrogen, and used subsequently a tampon of salol gauze.

"Humanum est errare."—We learn through a letter sent to our contemporary, the *Dominion Medical Monthly,* that two of the members of the Victoria (B.C.) Medical Society, after signing an agreement to refuse lodge work at the usual rates, have violated it, and are now doing the combined lodge work of Victoria. They have in consequence been expelled from membership in the Victoria Medical Society.

An Absent-Minded Beggar.—Sir William MacCormac, the President of the Royal College of Surgeons, who is now with our soldiers at the front, is an indefatigable worker. Often to save time when studying in his laboratory, he used to have a light lunch served there. Once his assistant heard him sigh heavily, and looking up, saw the doctor glaring at two glass receptacles on his table. "What is the matter, doctor?" asked one of the youngsters. "Nothing in particular," was the reply; "only I am uncertain whether I drank the beef tea or that compound I have been working on."

Dangers of Potassium Chlorate.—Dr. Henry Ashby reports in the *Edinburgh Medical Journal* several grave cases of poisoning consecutive to the administration of potassium chlorate. Physicians are well informed of the hurtful influence of this salt on the elements of the blood, and do not prescribe it as much as formerly. It is very popular with the laity, however, and is used in cases of sore throat very freely, although the results are in many cases, to put it mildly, highly problematical. In one disease, however, ulcerative stomatitis, potassium chlorate administered internally in small doses, soon produces a manifest improvement. In the other varieties of stomatitis its action is doubtful, and its use cannot be recommended.

Etiology of Malaria.—Dr. Laveran, at a recent meeting of the Paris Academy of Medicine, made some remarks on the importance attached to mosquitoes, as carriers of the parasite of malaria, by the Sierra Leone Commission. Instructions as to the means to prevent the development of malarial fever have been issued, showing how to get rid of mosquitoes and their larvæ, which live in stagnant water. Ponds or puddles must be dried, or else a small quantity of coal oil or fresh tar, poured on, drop by drop, must be spread over the surface of the water. Exposed persons are advised to use mosquito nets even during the day; the punka, a large fan intended to chase away these insects, is also recommended. Inunctions with oil of lavender or camphorated vaseline are of little value.

Spermatic Neuralgia.—To Sir Astley Cooper belongs the honor of having described irritable testicle. Drs. J. Donath and F. Hultl report a case of this disease, which they treated by resection of the lumbo-inguinal and external spermatic nerves (*Wiener klin. W.*, 1899, No. 11). They based their treatment on the fact that, in other forms of neuralgia, resections of nerves had often given good results; that, on the other hand, castration had not proved invariably successful in curing the neuralgic pains, and that a subsequent intervention might cure the neuralgia. After discussing and establishing these propositions by facts, the authors give the history of their patient, and the details of the operation performed on him. This procedure caused the neuralgic pains to disappear, and they had not reappeared three months afterwards.

Fecundity of French Families.—Using the census of 1891 as a basis for computation, M. Arsene Dumont shows that out of a total number of 10,750,000 families in France, 2,522,210 families, say 20 per cent., or a fifth of the total, are very fruitful. These may be subdivided into different classes. For instance, 251,658 families have at least seven living children; 322,651 have six children; 972,285 have five children; 975,616 have four children respectively. Continuing the enumerator shows that 15 per cent. of the total families have three living children, a sufficient fecundity; 22 per cent. have two; 24 per cent. have one, and 19 per cent. none at all. These statistics refer, of course, to living children, and not mere births. It thus appears, that about 38 per cent. of the families of France have at least three living children, and 65 per cent. have either one or two children, or none. There are communes in France, in Lot and Garonne, Tarn and Gers, where there is a birth-rate of only 12 or 13 per 1,000 living persons, instead of a mean birth-rate of from 22 to 23 per 1,000; but the birth-rate is lower still in Orne, where the decennial mean rate is 10.9 and even 8.7 per 1,000 inhabitants.

PERSONALS.

Dr. N. A. Powell was in Atlantic City in May.

Dr. Alex. McPhedran will move into his new residence this month.

Dr. Ezra Stafford is at present visiting friends at Lincoln, Nebraska.

Dr. Andrew Harrington has quite recovered from a severe indisposition.

Dr. C. E. Stacey moved into his new house, 161 College Street, last month.

Dr. E. M. Cook, of College Street, is making extensive alterations to his residence.

Dr. C. F. Moore, of Bellevue Ave., returned from his honeymoon two weeks ago.

Dr. J. Caven has resigned his professorship in Toronto University Medical Faculty.

Dr. Arthur Jukes Johnson has recovered from his recent illness, we are glad to say.

Dr. W. P. Thompson has returned to Toronto and taken up practice at 6 Carlton Street.

Dr. F. N. G. Starr left the city on the 24th ultimo, and had a few days' successful fishing.

Dr. H. H. Oldright has been appointed a member of the Ontario Provincial Board of Health.

Drs. Francis J. Quinlan and R. C. Myles have been elected Professors of Laryngology and Rhinology at the New York Polyclinic.

Dr. Harry Vaux, late of Brockville, and now of Hamilton, Ont., has been appointed Chairman of the Ontario Provincial Board of Health.

Dr. W. A. Young left on the 28th ult. for New York and Atlantic City. Before he returns he will attend the American Medical Association at the latter place.

Drs. Alex. McPhedran, J. J. Mackenzie, W. J. Greig, E. E. King and H. P. H. Galloway were in Washington, D.C., last month attending the Congress of American Physicians and Surgeons.

Dr. I. D. Archibald, who for the last year has been on the house staff of the Hospital for Sick Children, left the city recently to accept the appointment of Surgeon-Lieutenant in the Royal Medical Corps, Bermuda. Dr. Archibald, whose home is in Halifax, is a graduate of Toronto Medical School, and is a very popular and promising physician.

The Ontario Medical Association will open its Twentieth Annual Meeting on the 6th inst., in the Normal School Buildings. We bespeak for it the heartiest possible support from the Toronto profession.

The Canadian Medical Association meeting at Ottawa in September is, under the direction of President Dr. Powell, and General Secretary Dr. F. N. G. Starr, going to be a perfect "howler" of a success. No wonder the attendance has increased every year recently, considering the amount of work the energetic General Secretary alone has put into his end of it.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

COMPULSORY VACCINATION.

Toronto, May 8th, 1900.

To the Editor of The Canadian Journal of Medicine and Surgery :

Dear Sir,—In the May Journal an article appeared criticising those opposed to compulsory vaccination, and making statements not quite in accord with facts. For instance, it was stated that "There is no more question that vaccination has been the means of saving hundreds of thousands of valuable lives," etc. How vaccination has saved these lives would be very difficult to demonstrate, as the *general death rate* changes little even during a severe epidemic of smallpox, as is evidenced by the following figures: The deaths by smallpox in London, 1796 (highest of that decade) numbered 3,548, and the whole number of deaths was 19,288. In 1792 the smallpox deaths were 1,568, total mortality, 20,213. Again, taking England, 1841-1880, we find that during the three lowest years, 1841, '51, '55, the smallpox deaths averaged 1,057, and general death-rate 23.9 per thousand, while in the three highest years, 1863, '71, '77, the smallpox deaths averaged 4,153 and general death-rate was 23.6 per thousand.

Some of the "doubting Thomases" have read the article that appeared in the *British Medical Journal,* but what does it prove in favor of vaccination? Nothing! The writer states that 800,000 Porto Ricans were vaccinated, and that in nine months no cases of smallpox were to be found on the island. Was this result due to vaccination alone? Did the officials do nothing else to help stamp out the disease? Were not isolation and sanitation introduced and carried out rigorously and systematically? If vaccination only had been enforced, is there any one bold enough to say that the disease would have disappeared? Have the staunchest advocates of vaccination ever depended upon that process alone to stop the spread of smallpox in any epidemic that has visited Canada?

Then if, besides vaccination, isolation and sanitation are depended upon, how can any one logically give all the credit to vaccination alone? The plague, typhus, and surgical erysipelas have been almost removed from our hospitals by isolation and

sanitation, and so why not give the same means credit for removing smallpox?

In England one death results directly from 14,159 cases of vaccination, and yet only one person is killed of the 56,963,307 persons who travel by railroad. The British army and navy were thoroughly *re-vaccinated* in 1871-72, yet the death-rate was, from smallpox:

Army (1873-94)	37 per million.
Navy (1873-94)	36.8 "
Leicester (1873-94) ages 15-45	14.4 "

and yet Leicester had almost abandoned vaccination in 1871 for isolation and sanitation.

One of the delegates pointed out to the Premier that vaccination is the only operation made compulsory, and for which certain persons are paid out of the public funds. Take away the State monetary support, and how many professional men would be supporters of an operation opposed to every idea and theory of modern aseptic surgery? Dr. E. M. Crookshank, Professor of Pathology and Bacteriology, Kings College, London, says: "I maintain that there is no scientific support for vaccination, and the practice is destined to fall into desuetude." Hoping that the profession will treat this question on its merits, and not take anything for granted,

I remain,

Yours truly,

E. A. P. Hardy, M.D.

605 Spadina Avenue.

COLLEGE OF DOMESTIC SCIENCE.

To the Editor of The Canadian Journal of Medicine and Surgery:

Dear Sir,—Your reference, in a recent issue, to this new addition to our educational institutions was sufficient to induce me to visit it when in Hamilton.

The College is a very handsome structure, centrally situated, The President, Mrs. Hoodless, and staff, showed the company through the building and explained its workings.

The basement contains a well-equipped gymnasium. The ground floor has its artistic reception-room, reading rooms and offices. A broad, winding stairs leads up to the domestic art department. Here are taught sewing, designing, millinery work, everything from darning a stocking to decking out an Easter bonnet, or elaborating a bridal trousseau. The character of the mate-

rial, its manufacture, cost, etc., are all included in the course of study.

The next department is the one of most interest to physicians, viz., the cooking department. Here are taught the chemistry of foods, their habitat, methods of production, transportation, preservation, and preparation for dietetic use. Special attention is given to food values as nutritives, force and caloric power, infant and childhood dietetics, and invalid foods. The science of bacteriology is also taught, especially in its bearing upon food, infection, washing, infected dishes, care of food, and dishes about a sick-room, etc.

The whole course is a most attractive and practical one. Every young woman going through such a college is equipped for life in a manner she could not possibly be without such a training. The teachers are all specialists.

There are two features in the College work of special interest to physicians. First, the intelligent selection, preparation and care of foods. What physician has not been paralyzed by having an attendant hurry off to the bath-room, and take a cup that has been standing for hours or days a few inches from the w. c., fill it with water or milk, and bring it to the patient. With such a cup, infected with virulent germs, is it any wonder there are unsuspected (?) relapses? The same with foods exposed to infection. Again, see the extra leisure these healthful, aseptic foods and dishes would enable the physician to enjoy. Instead of having to hustle out and prescribe emetics to dislodge or pepsines to coax on the promiscuous delicacies our mothers, wives, daughters or sweethearts regale us on, we would have our palates bewitched, our stomachs enchanted, and the remaining digestive contingents delighted, at the approach of the scientifically prepared viands of the "sweet girl graduate" of domestic science. Under this new and happy change in our environments, we would—instead of casting aside as unworthy of notice the great questions dividing our statesmen and medical professors—have leisure to solve these, and discern those grandly sublime principles of eternal justice and right on which these notables stand. Now we simply look upon them as "scraps" between rival factions, which view surely cannot be the correct one.

However, the second feature is probably the most practical one that the College of Domestic Science teaches us, viz., the disposal of the question of overcrowding. The law is that each student has to eat her own cooking. If the breakfast-table is overcrowded there is always room at dinner and supper, for the ignorant, the indolent and incompetent have discomfited themselves. If the founders of our medical colleges had only instituted this plan, and compelled each member of the graduating class to prescribe, dis-

pense and take his own medicines, what a legion of professors, editors and contributors—not to speak of the innumerable hosts from the "rank and file"—would have thus transported themselves in the embryonic stage to the "happy hunting grounds"? However, though it be "the saddest thought of life to think of what might have been," yet this reform could never have been more effectively introduced than now. Mrs. Hoodless, in insisting upon this condition being faithfully carried out, has given us a very practical solution of the Darwinian theory of "The survival of the fittest."

J. HUNTER.

O'Hara Ave., Toronto.

ANOTHER of Miss Helen Gould's charities is a home for crippled children.

THE Woman's Medical College of Pennsylvania celebrated its semi-centennial in May.

THE International Tuberculosis Congress was held at Naples from April 25th to 28th.

A PERMANENT bureau for American trained nurses is to be established in Paris in June.

THE Sixth Annual Dinner of the Alumnæ Association of the Ontario Woman's Medical College was held in Webb's Parlors, Toronto, on the 18th ult. The address of welcome was delivered by Dr. Dymond, the President.

SIR DOUGLAS MACLAGAN died on April 5th. He was President of the College of Physicians of Edinburgh in 1864, also the leading toxicologist for many years. He made his chair of forensic medicine famous, and was consulted by the Crown in many a *cause celebre.*

DR. ABRAHAM JACOBI, upon his seventieth birthday, was presented by the students of the College of Physicians and Surgeons with a silver cup. A prominent medical journal adds the sentence, "He intends going to Paris to read a paper on 'Infant Feeding' at the International Congress."

AT the recent meeting of the Medical Association of Georgia, it was resolved to establish a Pasteur Institute in Atlanta for the treatment of hydrophobia. The resolution was unanimously carried, "That the profession endeavor to secure, through legislation, 50 per cent. of the dog tax to support said institution when established."

The Physician's Library.

BOOK REVIEWS.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Twenty volumes. Vol. XIX. New York: William Wood & Co. 1900.

The closing volume but one of the "Twentieth Century Practice" is devoted to malaria and micro-organisms. The contributors comprise Dr. Amico Bignami, of Rome; Dr. Simon Flexner, of Philadelphia; Dr. Ettore Marchiafava, of Rome, and Dr. Eugene L. Opie, of Baltimore, Md. The first part of the volume is devoted to a series of very fine plates, by Dr. Marchiafava and Bignami, illustrating malaria. Among the illustrations are the Hematozoa of Quartan Fever, Tertian Fever and Quotidian Fever, Quartan Parasites, Tertian Parasites, Estivoautumnal Parasites, Acute Enlargement of the Spleen in Malaria, the Liver in Pernicious Fever, Mucosa of the Stomach from a case of Choleraic Pernicious Fever, Extremity of an Intestinal Villus from a case of Choleraic Pernicious Fever, Section of the Brain in a case of Comatose Pernicious Fever, and many others. The plates are beautifully illustrated, and render the reading of the book much more intelligible and enjoyable. The four contributors divide up the work in three sections, Drs. Marchiafava and Bignami devoting over five hundred pages to the study of Malaria; Dr. Simon Flexner, of Philadelphia, contributing between two and three hundred pages on Micro-Organisms, the last chapter of one hundred and fifty pages on Protozoa coming from the pen of Dr. E. L. Opie. In referring to the action of quinine as a specific in the treatment of malarial fever, and discussing the way in which it causes the cessation of this disease, the authors admit that the most complete researches upon this subject are those of Golgi. According to his researches, in cases of Quartan Fever the administration of quinine in ordinary therapeutic doses does not arrest the development of the parasites when the modifications preceding segmentation have begun. The febrile attack is not prevented, yet the young generation of parasites resulting from fissure is destroyed, and this accounts for the permanent cure obtained with only one dose of the remedy three to four hours before the attack. If quinine is given six to eight hours before the attack, when the parasites are mature, but before the process of segmentation has begun, the attack is delayed and attenuated. But if the quinine is given on the first day of apyrexia, when there are only young endoglobular bodies present, its action is not constant. Sometimes the expected attack does not come on because the parasites have been destroyed; sometimes it is delayed and weakened so that the series of attacks suffer interruption, but a relapse occurs. Sometimes the attack is postponed and attenuated, and then we have a series of light and irregular attacks, after which comes the relapse. In the last two cases the effect of the quinine upon the parasites in the young stage is that of destruction of a part, with a disturbance in the life cycle of the surviving parasites, which renders their development very irregular. In multiple infections we may gradually succeed in simplifying the attack by small doses of quinine administered two or three hours before the attack. Thus in a triplicate quartan we may reduce the disease to a duplicate quartan, and finally to a simple fever. The following are the results of the authors on the effect of quinine upon this disease when given at different stages: (1) If administered during the crisis of an attack and continued during the apyrexia

which follows, in the majority of cases the next expected attack is inhibited or there is merely a slight elevation of temperature with little discomfort. (2) If quinine in the usual dose is administered within the six hours preceding the expected attack it may have no influence at all upon the temperature of the succeeding paroxysm. (3) If the remedy is administered at the onset of the attack in the majority of cases the attack will come on in the usual way, and may even be grave and prolonged. (4) When the quinine is given during the febrile attack, beginning shortly after the onset and continuing throughout the course of the fever, in a series of cases the characteristic curve of the tertian is not appreciably modified, while in another series there are various modifications—attenuation or disappearance of the precritical elevation or exaggeration of the pseudo crisis, or it may sometimes happen that the attack is prolonged and lasts longer than did the preceding one. In a whole series of cases, when the quinine has been given in large amount during the attack, there are apt to be no subsequent attacks, or on the following day or days there are only slight elevations of temperature. W. A. Y.

The Medical Diseases of Childhood. By Nathan Oppenheim, A.B. (Harv.), M.D. (Coll. P. and S. N.Y.)., author of "The Development of the Child," attending Physician to the Children's Department of Mount Sinai Hospital Dispensary. With 101 original illustrations in half-tone and 19 charts. New York: The Macmillan Co. London: Macmillan & Co., Limited. 1900. Obtainable at Tyrell's Book Shop, 8 King Street West, Toronto. Price, $5.00.

One of the many good points about this book is the abundance of photo micrographs of pathological sections. This we like very much, as too little attention has in the past been paid to this method of impressing upon the reader of any work upon diseases of childhood the difference between healthy and diseased tissues, giving him a clearer conception of what should be the foundation to all profitable reading. The book consists of twenty-five chapters, the first ones taking up the development and general hygiene of the new-born child, congenital malformations and deformities, injuries and diseases of the new-born, and feeding. The author then writes of the various diseases of the infant, those of the mouth, esophagus, stomach, small intestine, pancreas, liver and spleen, diseases of the large intestine and peritoneum. He devotes two chapters to diseases of the genito-urinary system, and two to the specific infectious diseases, finishing up with diseases of the skin. In the chapter on Diphtheria, the photo micrographs showing diphtheritic inflammation of the pharynx, diphtheritic inflammation of the trachea, and lymphadenitis of diphtheria are exceptionally clear and beautifully reproduced in half-tone. Dr. Oppenheim is strongly in favor of the use of antitoxin in the treatment of this disease. He advises at the outbreak of the sickness that all the other members of the family be given an immunizing dose (150-300 units, Behring standard, according to age). He thinks that the routine practice of cleaning the patient's gastro-intestinal tract by small and repeated doses of calomel must not be omitted. Without delay the child should be given a full dose of antitoxic serum (1000-3000 units, Behring standard). If good results do not follow, the injection should be repeated the following day. The author points out further on, that in some cases a discrete maculo-papular rash may appear about one week after the infection, which some practitioners have claimed as being due to deficient purity of the serum. It is not dangerous, and requires but symptomatic treatment. The author does not hold the same extravagant views held by others who declare that, with antitoxic serum at hand, such a thing as intubation is entirely out of the question, and never now required. Dr. Oppenheim says, on the other hand, that though the need of intubation is not as frequent as it formerly was, nevertheless there are occasional cases where it must be practised, especially in infants. We are pleased that the usual surplus of statistics is left out of this work altogether, such always proving tiresome and in the end of little value to any reader.

Anesthetics: Their Uses and Administration. By Dudley Wilmot Buxton, M.D., B.S., Member of the Royal College of Physicians; ex-President of the Society of Anesthetists; Member of University College; Administrator of Anesthetics and Lecturer in University College Hospital; Consulting Anesthetist to the National Hospital for Paralysis and Epilepsy, Queen's Square, and Senior Anesthetist to the Dental Hospital of London. Third edition. London, W.C.: H. K. Lewis, 136 Gower Street.

As this manual had been for some time out of print, it was found necessary to issue the present edition. As the field of anesthetic literature had expanded greatly, it was found necessary to recast the whole book, the less important literature being omitted and more useful matter put in its place. Owing to the present differences which are still under debate regarding the uses of anesthetics and their actions, the author has simply stated his ideas without giving any dogmatic opinion as to the views held by the different authorities on anesthetics. The main additions are descriptions of methods of giving nitrous oxide in combination with oxygen, Dr. Flux's open method of giving nitrous oxide, Schleich's solutions for general anesthesia, the infiltration method for producing local anesthesia, and Bier's method of intrathecal cocainisation, and the methods recently introduced for prolonging anesthesia under nitrous oxide. There is one thing that, in our opinion, should be more thoroughly investigated by anesthetists, and that is, suggestion as an aid to anesthesia. What a common thing it is to hear an anesthetist say to his patient: "Now, you may feel a little suffocation at first, but that will soon pass off," or "If you feel any suffocation why just blow out and it will help you." It is wonderful the effect of suggestion on neurotic patients if you merely suggest to them: "Now, this will put you to sleep very quickly. You must put all your ideas on sleep, and you must not speak or move under any consideration until I tell you to wake up." Impress this firmly and quietly on the mind of the patient when you begin giving your anesthetic; suggest occasionally the grand effect of your anesthetic, and how nicely and quietly she is going to sleep, and by thus quietly suggesting sleep your patient soon goes off into a quiet sleep with no struggling, no talking, no vomiting, and with a minimum of anesthetic which is often truly remarkable. We know a great many are sceptical about a matter of this kind, but just try it and you will have another leaf to put in your manual of anesthesia. This book is very nicely bound in the "Practical Series." A. J. H.

Diseases of the Genito-Urinary System. A thorough treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School; visiting Genito-Urinary Surgeon to the New York Post-Graduate Hospital; visiting Surgeon on the Genito-Urinary Division of the New York City (charity) Hospital; Professor of Genito-Urinary and Venereal Diseases in the University of Vermont, etc. New York: The Macmillan Co. London: Macmillan & Co., Limited. 1900. For sale at Tyrell's Book Shop, 8 King Street West, Toronto. Price, $5.00.

Some little time has now elapsed since any book has been published dealing with diseases of the genito-urinary system, so that this work, by Dr. Fuller, a gentleman in every way able to do justice to his specialty, will be quite a welcome addition to such literature. Dr. Fuller makes his a surgical rather than a dermatological treatise of the subject, the author holding that there is so wide a range between genito-urinary diseases proper and dermatology that it is impossible for any one mind to completely grasp, as well as expatiate upon, both subjects. There is little doubt about it that when a work is written by a series of writers, one is bound often to more or less encroach upon the other, and on the other hand, in many instances, certain topics will be left entirely out, one contributor taking it for granted that the other will deal with it, thinking it comes more within his province to do so. Not so with a book such as this, where the entire subject is dealt with by one person, and

especially so by one as talented as Dr. Fuller. The book is divided into twenty-three chapters, the first considering "The Bacteriological and Surgical Considerations as regards the Urine," after which animal parasites affecting the genito-urinary system, diseases of the penis, scrotum, testicle, epididymis and cord, disease in connection with the inguinal glands, the urethra, stricture, hypertrophy of the prostate, the bladder, vesical calculus, the ureters and diseases of the kidney are considered seriatim. The book is a very complete treatise of the subject in hand, and it was with pleasure and satisfaction that we read over especially the chapter on Vesical Calculus. The author throws light upon some points which have been subject to discussion and doubt in past years. We congratulate him upon the result of his labors.

A Manual of Gynecological Practice for Students and Practitioners. By Dr. A. Duhrssen, Professor in Midwifery and Gynecology in the University of Berlin. This manual is the second English edition translated and edited from the sixth German edition, by John W. Taylor, F.R.C.S., Professor of Gynecology, Mason's College, Birmingham ; Surgeon to the Birmingham and Midland Hospital for Women, and Frederick Edge, M.D., London, M.R.C.P., F.R.C.S., Surgeon to the Wolverhampton and District Hospital for Women ; Surgeon to Out-patients Birmingham and Midland Hospital for Women. London, W.C.: H. K. Lewis, 136 Gower Street. Price, 6s.

We are exceedingly indebted to these surgeons for opportunity of having this profusely illustrated, concise and complete little manual before us. One of the most valuable additions to this little work is the anatomical preface which, we think, should appear in every surgical work. It only takes a moment to skim over such a preface, and the surgeon has again his anatomical pictures in his mind's eye, so to speak. One would not think it possible to condense so much real information in a manual of this size, but every gynecological ailment has its place and treatment here. Another feature of this little book is the clear description of the technique in the examination of patients for the purpose of diagnosis. This is especially useful to students, and points out the proper way for them to begin their examinations, and so gives them more confidence in themselves and their patients more confidence in them.

The directions for the technique of vaginal fixation have been somewhat altered, and the method of intra-uterine steam medication is described and recommended for uterine hemorrhage due to endometritis or submucus myomata. A. J. H.

Diseases of the Tongue. By Henry T. Butlin, F.R.C.S., D.C.L., Surgeon to St. Bartholomew's Hospital ; formerly Erasmus Wilson Professor of Pathology and Hunterian Professor of Surgery at the Royal College of Surgeons ; and Walter G. Spencer, M.S., M.B. (Lond.), F.R.C.S., Surgeon to the Westminster Hospital, and in charge of the Department for Diseases of the Nose and Throat ; formerly Erasmus Wilson Professor of Pathology at the Royal College of Surgeons. Revised and enlarged edition. Eight chromo plates and numerous engravings, 488 pages, size 5 ½ x 9. Cloth, $3.25 net. New York : Cassell & Company, Limited.

The author in his preface to this revised edition says : "Various additions have been made, such as the chapter on the Anatomy of the Tongue. On many points relating to clinical occurrences, particularly on the manner in which cancer first appears on the tongue, and on questions of operative surgery for malignant disease, the experience I have acquired during the last fifteen years enables me to speak with far greater authority than I ventured to do in 1885."

The *British Medical Journal* says of the previous edition : "Mr. Butlin may be congratulated upon having written an excellent manual, scientific in tone, practical in aim and elegant in literary form. The colored plates rival, if not excel, some of the most careful specimens of art to be found in the pages of European medical publications."

Elements of Clinical Bacteriology for Physicians and Students. By Levy and Klemperer. Second edition, enlarged and revised. Translated by Augustus A. Eshner, M.D. Philadelphia: Saunders. Canadian Agents: J. A. Carveth & Co. Price, $2.50 net.

In placing Levy and Klemperer's text-book within the reach of English-speaking students, Eshner has conferred a distinct benefit. We cannot claim that there is any dearth of text-books of bacteriology in English, but the deservedly high place which this work has obtained in Germany fully warrants the publishers in producing it in English. The work has not lost in the translating, as Dr. Eshner has added material which brings it thoroughly up to date, and it has been enriched by the addition of illustrations.

Although devoted to the clinical side of bacteriology, and therefore eminently practical, it contains seventy-four pages devoted to the biology of bacteria and questions of infection and immunity, which will repay perusal. In the chapter upon Immunity the reader will find the question carefully treated and a very fair critical discussion of the various theories. The chapter upon Diphtheria is very full, containing, as it does, the recent work of Ehrlich's upon the constitution of the diphtheria toxin and his recommendations as to standardizing the antitoxin. We think it rather superfluous, however, to introduce this in a text-book of clinical bacteriology, but it is certainly important that clinicians and students should understand the meaning of an antitoxic unit, so that they may appreciate the dosage in serum therapy. We can thoroughly recommend this work. J. J. M.

Tuberculosis: Its Nature, Prevention and Treatment. With special reference to the Open-Air Treatment of Phthisis. By Alfred Hillier, B.A., M.D., C.M., Fellow of the Royal Medico-Chirurgical Society, London; Member of the Council of the Medical Graduates' College; Member of the Council of the National Association for the Prevention of Consumption and other forms of Tuberculosis; Hon. Sec. to the London Open-Air Sanatorium. With thirty-one illustrations and three colored plates, 256 pages, sizes 5x7½. Cloth, $1.25 net. New York: Cassell & Company, Limited.

The author in his preface says: "Tuberculosis offers many aspects for study. These have been considered under different headings and in many different volumes; but no one book in English, so far as I am aware, is devoted to the subject as a whole. For this reason I venture to believe that a concise manual, dealing with all the hydra heads of Tuberculosis in one volume, will form a work of reference of some interest and value to practitioners of medicine and medical students. It is for them that this work is primarily intended. Tuberculosis is the Nemesis of overcrowding, of squalor, of departure from the conditions of a healthy animal life. Immunity from tuberculosis is a large portion of the reward which a community may hope to derive from good sanitation, from light, from air, from all that is sound in the progress of civilization, and all that is conducive to the material and moral welfare of the masses. It is thus a social as well as a medical problem."

The Anatomy of the Brain. A Text-Book for Medical Students. By Richard H. Whitehead, M.D., Professor of Anatomy in the University of North Carolina. Illustrated with forty-one engravings. 6¼ x 9½ inches. Pages v.-96. Extra vellum cloth, $1.00 net. Philadelphia, Pa.: The F. A. Davis Co., Publishers, 1914-16 Cherry Street.

This little book has been written for the purpose of giving the student a concise account of the anatomy of the brain. The author has succeeded in producing a guide which will prove of value to the student in his dissection. We are glad to observe that the author begins his description with a reference to the development of the central nervous system. In our opinion the student is wholly unable to get an intelligent conception of the structure of the brain without having constantly before his mind the explanation of the various

relations obtaining between the different parts of the nervous system, which is obtained by a study of the development of these structures. We would have appreciated the work more had the author made more frequent reference to development in the body of the book. This method of dealing with brain anatomy simplifies the subject for the student, and he takes more interest in his work because he is enabled to thoroughly understand his subject. The author has made an excellent selection of diagrams to illustrate the text. We can recommend the volume as an accurate and useful guide to those who wish to study the anatomy of the brain. A. P.

A Manual of Medicine. Edited by W. H. Allchin, M.D. (Lond.), F.R.C.P., F.R.S. (Edin.), Senior Physician and Lecturer on Clinical Medicine in the Westminster Hospital; Examiner in Medicine University of London and Med. Department Royal Navy. London and New York: Macmillan & Co., Limited.

This is a work of five volumes, and is dedicated to Sir Wm. Jenner, Bart., G.C.B., M.D., F.R.C.P., F.R.S. Vol. I., which is just issued, is devoted to General Diseases, and Diseases Excited by Atmospheric Influences and Infections. It contains 435 pages, 49 short chapters, a table of contents and a good index. Facing the title-page are two plates, each containing six beautiful colored figures of the more important micro-organisms. There are twenty-two contributors, all men of note and holding positions in the various London hospitals. The work is devoted to clinical manifestations, diagnosis and treatment. Etiology and morbid anatomy are very briefly summarized. Bacteriology is given a prominent place in the work, and in this connection the chapter on Infections, by G. Sims Woodhead, is especially interesting. The work is thoroughly up-to-date, and from the clear and concise manner in which the various subjects are dealt with, will prove very useful to students and the busy general practitioner. W. J. W.

Paralytic Deformities of the Lower Extremities. The Principles of their Surgical Treatment. By E. Noble Smith, F.R.C.S. (Edin.), etc. London: Smith, Elder & Co.

Mr. Smith has produced for the profession a valuable brochure dealing with the eminently practical subject of the orthopedic treatment of paralytic deformities. There has grown up through the persistence of the makers of mechanical instruments, a real abuse of such appliances as are being employed to aid in the treatment of this difficult class of cases. Mr. Smith not only calls attention to this fact, but lays down, in a very concise and clear manner, the principles of treatment. The book does not make any claim to marked originality. He has, however, a chapter on "A New Method of Restoring the Absent Function of Muscles in Infantile Paralysis," which propounds a theory which, so far as we know, has not hitherto been advanced and to which, it seems highly probable, considerable importance may yet be attached. In this little book the general practitioner will find a safe and useful guide to aid him in advising patients of this class. B. E. M.

Encyclopedia Medica. Under the general editorship of Chalmers Watson, M.B., M.R.C.P.E. Volume II., Brachial Plexus to Digestion. Volume III., Diphtheria to Food. Edinburgh: William Green & Sons. 1899. Price, 20*s.* net per volume.

These volumes maintain the good standard of the first, to which attention was drawn some months ago. The articles have been written by the younger men of the profession chiefly, and reflect great credit on them. If the standard is maintained to the end, the work will form a valuable addition to any library, especially of such as do not have access to moderately well-equipped medical libraries. The articles are so numerous that it is not possible in the limits of this notice to refer specially to any of them. They all appear to be eminently

practical and, for the space available, very comprehensive. We have but to reiterate the hope already expressed that in future such works will be so arranged that single volumes, or even parts of a volume may be obtainable by those desiring them, without the necessity of purchasing the whole work.

A. M'P.

Home Nursing. Modern Scientific Methods for the care of the Sick. By Eveleen Harrison. New York : The Macmillan Co. London : Macmillan & Co., Limited. 1900.

This small book, of course, is quite elementary. It is composed of hints as to the best means for rendering the life of the sick and invalid as comfortable and cheerful as possible. It contains some very practical points as to the various kinds of nourishment to be administered under different conditions, especially during convalescence. The authoress devotes several pages to recipes for invalid cooking, which are grouped, and that wisely, under the headings of the various diseases in which they are found most useful.

Lessons in Elementary Physiology. By Thomas H. Huxley, LL.D., F.R.S. Enlarged and revised edition. London : Macmillan & Co., Limited. 1900.

This excellent work has for many years enjoyed the reputation of being one of our very best elementary text-books on physiology. Sir Michael Foster has revised the work, and has made several important changes and additions so as to bring it into harmony with recent advances in physiology. A. E.

LITERARY NOTE.

Mr. W. B. Saunders wishes to announce the final accomplishment of a step that he has long had in mind. Feeling that the growth of the business to its present large proportions has been due, not alone to his own exertions, but quite as much to the efficient co-operation of a number of his employees, he has decided to give recognition to such service by associating with himself in business, under the firm name of W. B. Saunders & Company, Mr. F. L. Hopkins, Manager of the Subscription Department, and Mr. T. F. Dagney, Manager of the Publication Department. These gentlemen have been connected with the establishment almost from its inception, and to their capable management of their respective departments Mr. Saunders attributes much of the success that has attended his efforts. Mr. Saunders believes that this action will strengthen the position of the house in the eyes of the medical profession, as it will secure a permanence of organization that will ensure the perpetuation of the business. Besides this, it will obviate the disadvantages incident to a large business that rests entirely upon the shoulders of one person, by permanently attaching to the house those whose ability and experience have contributed in bringing the business to its present state of prosperity. The Subscription and Publication Departments will be conducted as heretofore. The Trade Book Department will be under the management of Mr. W. D. Watson, whose connection with the house has extended over the past eight years, and who has demonstrated his ability to manage that department with efficiency and success.

MAGAZINES RECEIVED.

Scribner's Magazine for May contained four illustrated articles that were unusually informing in regard to events and questions of contemporary importance. The leading article on "Some Picturesque Sides of the Exposition" is both written and illustrated by the artist, E. C. Peixotto. He has spent a

number of months in Paris recently, and these drawings give an artist's impressions of the very picturesque group of buildings which will be soon crowded with visitors from all portions of the world. Mr. Peixotto's skill as a draftsman, shown in the Cromwell and the Revolutionary series, in this magazine, has enabled him to make the best possible pictorial presentation of the great French Exposition. A great deal of information about "Rapid Transit in New York" has appeared in the daily press, but the first presentation of exactly what it means and how it will be carried out, and how the tunnel and its stations will actually appear, is contributed to this number by William Barclay Parsons, chief engineer of the Rapid Transit Commission. The illustrations, drawn under Mr. Parsons' supervision, show precisely what this great engineering work will be like. The paper is an authoritative account of the whole project. Nothing has been more remarkable in the history of the West than the entire change in Colorado in a few years from a silver-producing to a gold-producing State. Just a little while ago the gold output of Colorado was $3,000,000 a year; it is now more than $30,000,000, the greater part of it coming from Cripple Creek. Francis Lynde, the well-known writer, describes this tremendous industrial development in an article on "Cripple Creek," prepared after a special investigation undertaken for *Scribner's Magazine*. It is an astounding and dramatic story, and it is fully illustrated by drawings made from photographs. The narrative of the Boer War is continued with another brilliant article from H. J. Whigham, who reviews the alleged mistakes of the British generals in strategy and tactics, and discusses many much-disputed points in the campaign.

PAMPHLETS RECEIVED.

"Hemaboloids: Its Composition, Physiologico-Chemical Basis, and Therapeutic Sphere of Action." Toronto: The Palisade Manufacturing Co., 88 Wellington Street West. A very interesting pamphlet has reached us from the Palisade Manufacturing Company, Yonkers, N.Y., giving composition and intent of their new preparation "Hemaboloids." The preparation is described as being a combination of the various iron-bearing nucleo-albumens of the vegetable kingdom, reinforced by bone-marrow extract and beef peptones. The essay undertakes to prove that inorganic iron-bearing preparations ingested into the stomach are not absorbed, while absorption of iron organically combined is constant and certain. The subject is interestingly treated and the line of reasoning worthy of careful consideration. We are advised by the P. M. Co. that the pamphlet will be sent to any physician making application for same, as also sample of the preparation where desired.

Tubercular Gummata.—Dr. Fournier presented to the Society of Dermatology and Syphilography patients suffering from this disease. The differential diagnosis between syphilitic gummata and this disease is made as follows: Tubercular gummata are surrounded by an inflammatory areola of about half an inch in diameter; in syphilis there is no areola. In syphilitic gummata there is an induration underlying the lesion, which does not exist in tubercular gummata. In syphilis there is a well-marked pigmentation, encircling the cicatrised gummata, but there is no pigmentation in the cicatrices of cutaneous tuberculosis.

Medical Miscellany.

Julia's Incubator.—*Lyon Médical* for March 19th remarks upon the habit among women of using the bosom—the space between the mammary glands—as a repository for various articles, letters, the watch, the purse, and the like. Our contemporary goes on to say that Julia, daughter of Augustus Cæsar, being pregnant, was desirous of giving birth to a son. In order to ascertain the sex of her unborn child, she carried an egg in her bosom. The augury was auspicious; a cock was hatched from the egg, and she bore her husband a son.

Meat Extracts.—Of what are meat extracts made? This is a rather delicate question, which it would be imprudent to sound to the bottom. To suppose that the flesh of old horses, dead from exhaustion or disease, forms a large percentage of the raw material of these products is a permissible hypothesis, but it is rather too indulgent. A judgment recently given by an English police court justifies the worst suspicions. This judgment ordered the destruction of fifty tons of decomposed livers, which were intended for use in making "the delicious meat extracts" for the use of convalescents.—*Med. Mod.*

The Tabetic Eye.—M. Gilles de la Tourette (*Journal des Praticiens,* March 11th), in a recent communication to the *Societe medicale des Hopitaux,* says that the ocular manifestations of tabes are numerous, since this disease affects the retina, the external muscles, and even the lacrymal passages. There is one symptom, however, which he does not remember to have seen noticed elsewhere. He has often, he says, seen to enter his consulting room a patient whose normal gait gave no suggestion of locomotor trouble, and at first glance has nevertheless marked him for a tabetic patient by the aspect of his eyes. It was not a question of meiosis, which, when punctiform and found in blue irides, suggests tabes, but a peculiar brilliant appearance of the eye, which, nevertheless, is expressionless. This appears to the author to be a valuable early sign of the disease. It is independent of the condition of the pupils, which does not modify it, and is especially easy to note in those whose irides are dark in color.

The Risks of Infection in Railway Cars.—An illustration of the dangers to which those are exposed who are compelled to use public conveyances, as well as of the necessity of adopting suitable precautionary and corrective measures, is furnished by a recent investigation conducted by Dr. Petri, of the Imperial Sanitary Bureau of Berlin, who found that of ninety-one animals inoculated with material, principally expectoration, obtained from the interior of railway carriages, nearly one-third died as a result, while of the remainder, several on being killed were found to have become tuberculous. In those that had died in consequence of the inoculation, staphylococci and streptococci were the organisms principally found. Tubercle-bacilli had previously been found by another observer in the dust from railway carriages. Indiscriminate expectoration should be rigorously forbidden, particularly in public places and in public conveyances, and infraction of this rule should be adequately punished, at least by fine. While we may not hope entirely to eradicate transmissible diseases, the observance of a few sensible regulations will go far to diminish their prevalence and restrain their spread. To this end let us make and keep ourselves and our surroundings, together with the air we breathe and the water we drink, as clean, as aseptic as possible.—*The Philadelphia Medical Journal.*

Local Anesthesia by Tissue-Exsanguination.—Oberst induces local anesthesia by the combination of cocaine in small amount and the elastic tourniquet. Dr. Kofmann, of Odessa, effected it without cocaine. A tourniquet was applied round the upper arm in a case of ganglion. When the skin had been sterilized the hand was of a death-like pallor and insensitive to touch or pain, so that the ganglion was dissected out without the patient's knowledge. A second patient was a woman with a needle embedded in the hand; a deliberate dissection was carried out with a like freedom from pain. A series of cases of abscess, whitlow, etc., were treated with similar success. If the patients could not see it, they did not even know when the operation was performed. Complete anesthesia depends on the thoroughness of the elastic constriction of the vessels, and on a sufficient interval being allowed to elapse after the application of the tourniquet. In operating on the fingers or toes, Dr. Kofmann has found it better to apply the constrictor above the wrist or ankle, as he has seen gangrene from applying it to the base of the finger or toe. It is applicable to any operation below the elbow or knee. For the thigh, upper arm, trunk and head, he employs Schleich's method of local anesthesia, and has reduced the use of general anesthetics to a minimum.—*Edinburgh Med. Jour.*

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